subsistence shifting agriculture alone. This leaves hardly any margin for land 161
unsuitable for cultivation, for bush land needed as a source of building materials 311
etc., or for unequal distribution of land as between families.

We may divide the land occupied by Orokaiva into two broad sub-regions. 133
The first is made up of the foothills themselves which have an 8 to 12 inch very
dark brown top soil, rich in nitrogen and phosphorus. The fine-textured subsoils 134
range from 10 to 22 inches in depth. This sub-region coincides approximately [161
with the Saiho census division which had a population of 8,211 in 1966 giving a
density of about 55 per sq. mile. The second sub-region, situated to the north 162]
and east of the first, consists of poorly drained but readily improvable plains.
Here the population is very much sparser. Most village domains contain only a
fraction of immediately utilisable good cultivation land and even this does not
have the special fertility of the volcanic loam on the mountain slopes. The soils
of Inoda, a village situated in this sub-region, have been discussed in much detail
by Crocombe and Hogbin 1963, quoting the Commonwealth Scientific and
Industrial Research Organisation (C.S.I.R.O. [1954]). This sub-region forms part [161]
of the Sohe-Popondetta census division which, as a whole, has a population
density of about 20 per sq. mile. Villages are smaller and more dispersed.

The boundaries of what we may call the Orokaiva tribal area are probably 197
best determined by the criteria used by the Papuans themselves, namely, [101]
linguistic criteria. Orokaiva is part of the Binandere group of eight languages (see
Wurm 1960) spoken in most of the more densely populated parts of the
Northern District; of these languages, Orokaiva is spoken by the greatest
number, but only about half the population in the Ovokaiva-Binandere area. The
only language of this group for which a reasonably full description (grammar and
dictionary) has been published is Binandere (Copland King 1927), a language
spoken around the lower part of the Mambare and Gira rivers. Other languages
of this group are: Orokaiva, Notu, Aiga, Huniara, Yema, Taindaware. While there
are considerable vocabularly differences between these languages, there is a close
resemblance in grammar and enough resemblance in vocabularly to make a very
limited degree of intercommunication possible. (Chinnery and Beaver 1916 and
an unpublished manuscript by Capell [n.d.]). We do not know much more about
the Binandere group of languages except that it is a Papuan grouping (Grace
1968).

It seems to me that dialect divisions within the Orokaiva language area which
have been noted at various times (Beaver 1916, Williams 1930) are rather minor.
A fairly accurate idea of the boundaries of the Orokaiva language area may be
obtained by identifying this area with the district administered by the Higaturu
Local Government Council which covers the Saiho and most of the Sohe-Popondetta census divisions.

Williams (1930: 157–9) attempts to distinguish the Orokaiva language 101
speakers from other tribal groupings by listing cultural differences (notably in
dress and ornaments) but these are not pronounced and, under modern
conditions, may be observed only on ceremonial occasions when headgear and
bark-cloth are worn.

Prior to European contact, the normal mode of settlement was in hamlets 361
containing 6 to 12 houses and surrounded by land used for shifting agriculture.

[TEXT CONTINUED ON PAGE 18]

361 Though Monckton reports (1921) a few large villages in the early post-contact
period, it is only recently, in response to Australian pressure, that multi-clan
167 villages, with populations ranging from 100 to 500, have become common. Most
464 of the plantations found in the Northern district have been established by
Australian ex-servicemen supported by government loans. A number of Orokaiva
have been drawn to work on these plantations, others to jobs in Popondetta,
others again to service with the police, the armed forces or employers outside
[162] the district. Such migration has substantially reduced the proportion of the male
village population group.[2]

2. *Technology and Aesthetics*

412 We possess only the briefest description of Orokaiva industry (in Williams 1930).
Although I did collect additional data, the traditional technology has been
177 transformed to such an extent that my data must needs be fragmentary. The
only axes and adzes now in use are made of steel; most of the various
stone-made cutting tools described by Williams are no longer in use, being
replaced by the ubiquitous bush knife wielded by young and old, male and
female. One exception is worth noting, if only to emphasise an element of
continuity: cockle shells are still used for the scraping of coconuts and for the
[237] shaping and decorating of pots. Most of the needles used by women are still
made of flying fox bones (*poma*), even though a few needles have at times been
obtained from the Mission. While files for sharpening tools are necessarily made
of steel, rough leaves still serve as tools for scraping pots, smoothing down wood,
[227] etc. The same mixture in the use of basic tools is found in agriculture, hunting,
and fishing: we still find the digging stick but also the axe; traditional hand nets
412 and fishing spears (with steel tips), but also snorkels. For hunting, traditional
devices have been almost entirely replaced by the shot gun. The old technology
177 is still basically intact in those few industries which are directly related to
ceremonial life: the making and decorating of loin cloths, feather headdresses,
[294] ceremonial weaponry, musical instruments such as drums. Certain other
[412] specifically feminine artifacts (mats, baskets, string bags) are still produced and
in use, while much of the contemporary Orokaiva house-building technology is
[534] traditional, Fine wickerwork for ceremonial objects (armlets, spear decorations,
[285] etc.) is still made by some of the older men. Orokaiva women have almost
stopped making pots, though this was an important industry in pre-contact
[286] times. While trade goods are used for everyday purposes, such pots as are still
[323] made serve as gifts to women at the time of marriage. They are kept for
sentimental reasons, but we were able to see only very few.

262 An everyday Orokaiva meal consists of taro, often with a few vegetable
condiments: coconut milk, cordyline tips, or edible pitpit,[3] or one of a number
[263] of herbs, sometimes of supposed medicinal value. Much care is devoted to the
[243] cooking of the taro and variety is provided partly by a choice from many
varieties of taro growing in most gardens. In the dry season, any of a number of
subsidiary foods (sweet potato, German taro, yam, banana, breadfruit and
several others) may be added to make the taro stretch further. Meat or fish is
eaten only rarely, usually on festive occasions. Foods like tea, sugar, bread and
258 263 salt are also reserved for such occasions. Although several traditional methods of

actually has provided the Orokaiva with a reliable and substantial cash income 245
for some years. This is true to a very minor extent for the third cash crop 473
promoted on a major scale, copra, which was grown especially near the coast.
The coffee is processed and sent to a co-operative factory as parchment, for
which purpose many villages own one or more hullers. Copra is supposed to be
dried in driers built in the villages, but the one I saw in Inonda had broken down
and seems unlikely to be repaired.

Clothing. The traditional Orokaiva costume was a skirt for women and a 291
perineal band for men (Williams 1930: 32–4). Boys went naked until some time
before puberty, girls until after puberty seclusion. These garments were made of 287
barkcloth obtained from trees which were mostly grown in gardens for this
purpose. Larger garments were used for wrapping round the shoulders in cold
weather, and also for shrouds. This mode of dress was abandoned in the 1950s, so [177]
that today the Orokaiva buy their clothes almost entirely from trade stores and [438]
at mission bazaars. Traditional dress is used for dances, initiation ceremonies and
other special occasions. For this reason bark-cloth trees (such as the *ajimo*) are
found rather infrequently in gardens today. Bark-cloth is still being painted with
decorations in traditional style and with a mixture of traditional and trade dyes.

Housing. Villages are in flat clearings where the grass is kept scrupulously 361 ●
cut and from which the women regularly sweep away rubbish. Houses (*bande*)
are built in two facing rows, each house normally being occupied by one nuclear
family. The roof of sago thatch slopes down from a central ridgepole. Wall 342
construction has been in various styles since Australian contact, but today [177]
vertically set sago-branch midribs are becoming old fashioned in some areas and
vertically laid shingles, about 6 ft. by 5⅜ ins., are being adopted in villages
desiring to show they are tuned in to modern life. A great number of tree species 313
must be used for the various parts of the house. Materials are taken as much as
possible from reverted gardens which contain small trees. For a number of
purposes large trees with trunks of high-quality slow-growing wood are
considered essential. These trees have to be obtained from areas of bush much
older than the usual reverted gardens. On the Mount Lamington foothills, such
areas are very scarce. Trees of this quality tend to be the subject of gift exchange
as between families, a subject to be discussed below.

Though it is each man's responsibility to build his own house, it is usual to 342
call on helpers, especially sons, brothers and brothers-in-law, to help with [476]
construction. Recent changes in house construction include the increasing use of
nails, though not for flooring; a remarkable increase in house sizes; the change in [177]
wall construction already mentioned, and a number of measures to 'improve'
hygiene: lavatories, rubbish holes, pens for chickens, windows. The windows, an
innovation promoted by the government to combat tuberculosis, are considered
too uncomfortable in cold, wind or rain. Accordingly, they are always covered
over with pieces of timber which can be removed if the patrol officer insists.[6]

Bachelors' houses (*oro*) are of precisely the same size and construction as the 345
ordinary *bande*. The more prominent men of the village build themselves small
meeting platforms, covered with a roof but lacking walls, for the entertainment
of visitors (*arara*). In the gardens, we find small houses with an earth floor, no
walls, but a platform just below roof level. People sit in these garden houses 343

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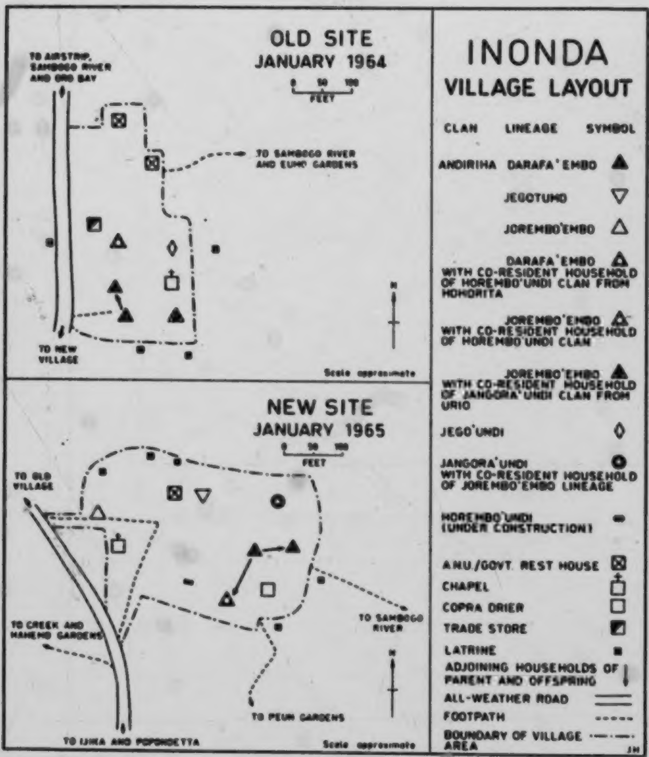
OLD SITE
JANUARY 1964
0 50 100
FEET
TO AIRSTRIP, SAMBOGO RIVER AND ORO BAY
TO SAMBOGO RIVER AND EUMO GARDENS
TO NEW VILLAGE
N
Scale approximate
NEW SITE
JANUARY 1965
0 50 100
FEET
TO OLD VILLAGE
TO CREEK AND HANEMO GARDENS
TO SAMBOGO RIVER
TO PEUM GARDENS
TO IJIKA AND POPONDETTA
N
Scale approximate
INONDA
VILLAGE LAYOUT
CLAN LINEAGE SYMBOL
ANDIRIHA DARAFA'EMBO ▲
JEGOTUMO ▽
JOREMBO'EMBO △
DARAFA'EMBO WITH CO-RESIDENT HOUSEHOLD OF HOREMBO'UNDI CLAN FROM HOHORITA
JOREMBO'EMBO WITH CO-RESIDENT HOUSEHOLD OF HOREMBO'UNDI CLAN
JOREMBO'EMBO WITH CO-RESIDENT HOUSEHOLD OF JANGORA'UNDI CLAN FROM URIO
JEGO'UNDI ◊
JANGORA'UNDI WITH CO-RESIDENT HOUSEHOLD OF JOREMBO'EMBO LINEAGE
HOREMBO'UNDI (UNDER CONSTRUCTION)
ANU/GOVT. REST HOUSE ⊠
CHAPEL
COPRA DRIER □
TRADE STORE
LATRINE ■
ADJOINING HOUSEHOLDS OF PARENT AND OFFSPRING
ALL-WEATHER ROAD
FOOTPATH
BOUNDARY OF VILLAGE AREA
JH

361
614
613
366
364
491
487
102

Fig. 4. Inonda village layout.

The leader, a government driver, earned about 65 per cent of the total cash 105
income of the whole village, not only in wages but also through various 622
enterprises on the side. He was the lay preacher as well. The only limit to his 177
influence was the unwillingness of the pagan faction to become involved in
'modern' activities of which he was the champion.

Ecologically, Inonda is characteristic of the alluvial plains region to the east 133
of the mountain. It lies between 200 and 300 feet above sea level, and has a 132
comparatively low rain-fall and long dry periods. Its population density is low:
42 people on a village domain of 2850 acres (less than 10 per square mile). The 161
best Inonda land is 580 acres of coarse-textured recent riverine deposits, covered 162
with forest or regrowth and lying beside the Sambogo and Girua rivers.
134
137

5: Schwimmer E-4,5 (1966-1967) 1973
OJ23 Orokaiva OJ23
Mountain Orokaiva

102
361
491
368
133

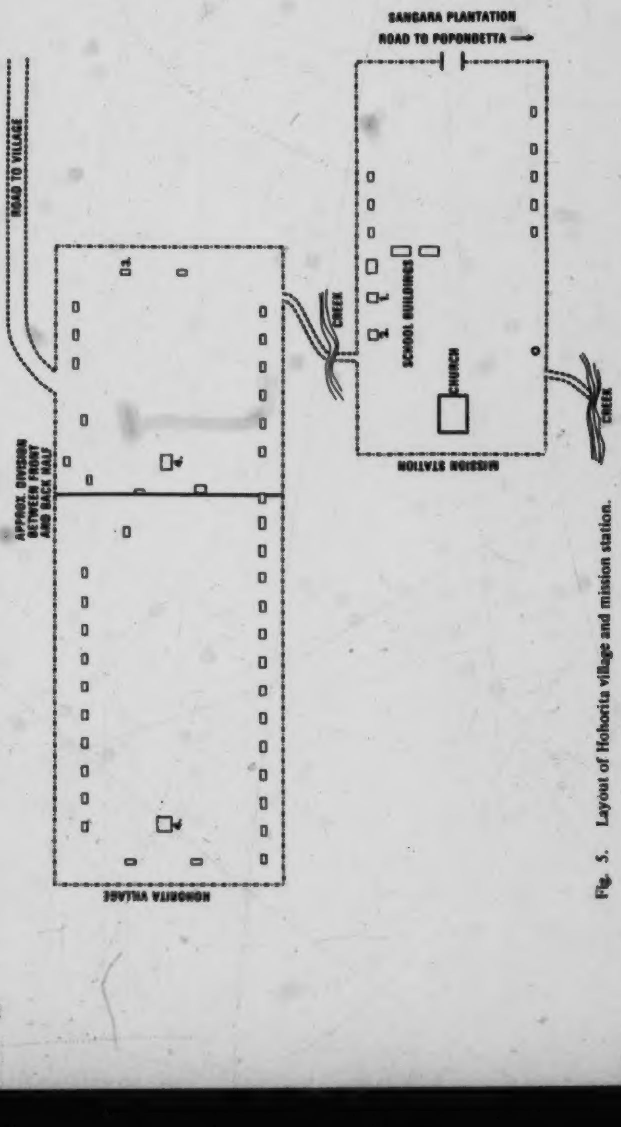
ROAD TO VILLAGE
APPROX. DIVISION BETWEEN FRONT AND BACK HALF
3.
4.
4.
HOHORITA VILLAGE
CREEK
SANGARA PLANTATION
ROAD TO POPONDETTA →
1.
2.
SCHOOL BUILDINGS
CHURCH
MISSION STATION
CREEK

Fig. 5. Layout of Hohorita village and mission station.

101 until June 1967. Previous intensive studies had been made there by Rimoldi and Waddell. Sivepe is twenty-four miles from Popondetta, but this distance 105 represents a drive of two to four hours in a Landrover, according to the time of year. The village lies on a side road, serving a population of some 2,000 living in the valley of the Sasembata (or Hembe) and Sohu rivers, two tributaries of the Kumusi. This side road runs from the main road in a south-easterly direction as far as Kendata. The Sasembata-Sohu valley combines all the most favourable ecological conditions: heavy rainfall, deep volcanic loam, excellent drainage, easy contours. The first time I drove to Sivepe was during the dry season. Turning from the main road, I found myself on a slightly improved grass track, with villages built right across it, the sweet aroma of coffee trees (which, incidentally is strongly disliked by the Orokaiva) pervading the atmosphere, lush vegetation, and a life-style on which the Europeans had apparently made much less impact.

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491
133
102

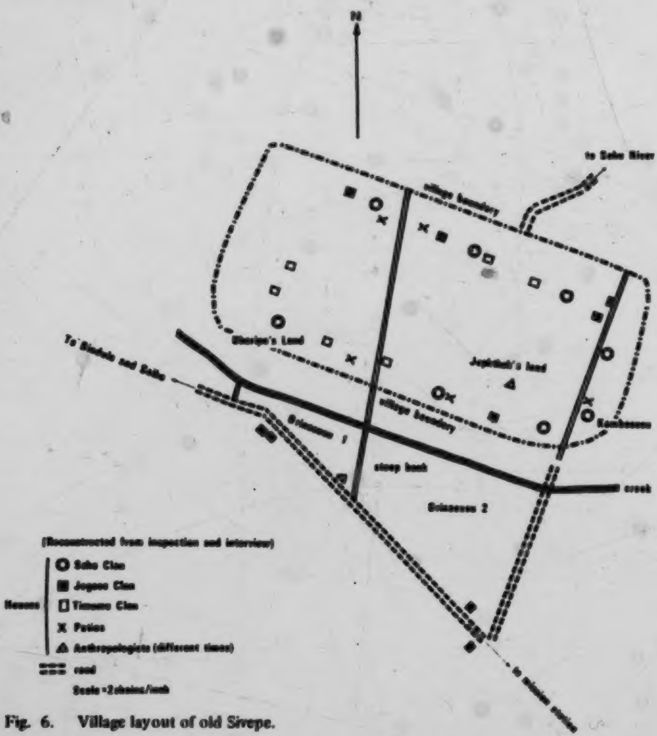
N
to Sohu River
village boundary
village boundary
steep bank
creek
(Reconstructed from inspection and interview)
Houses
Anthropologists (different times)
road
Scale = 2 chains/inch

Fig. 6. Village layout of old Sivepe.

824
431
571
621.
[128]

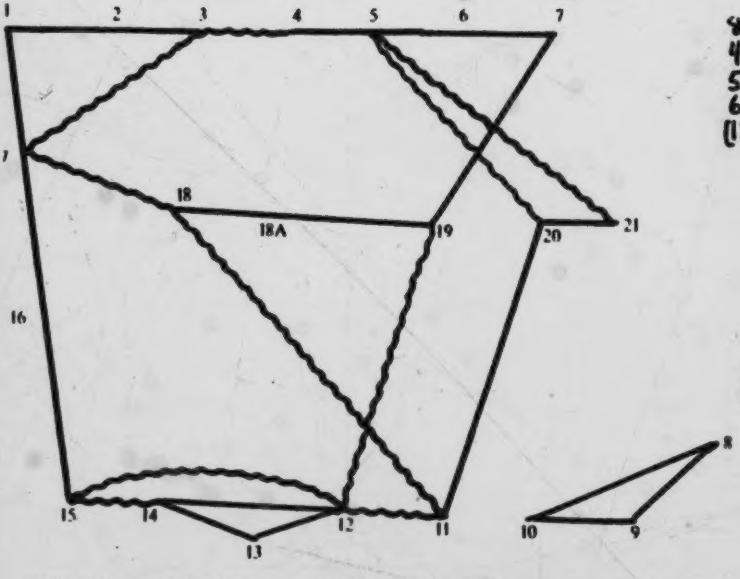

Fig. 8. Taro gifts in Sivepe: sociogram of preferential partnerships. Households are numbered as in Fig. 9 (see p. 202). Straight lines indicate closest mutual relationships, while wavy lines indicate other preferential partnerships.

some generalities are given here, related to our general argument. Taro gifts were used especially to mediate relationships between neighbours, close kin, exchange partners, and with certain persons of special status such as leaders, magicians, and the like. The Garombi immigrants used the system somewhat differently from the old residents, as the former were more actively seeking new partnerships, especially with the more influential old residents.

Graph analysis shows two chief patterns: the cluster and the circuit. From the viewpoint of the quality of social relationships, the cluster is obviously to be preferred, as it provides intimate one-degree links between all members of the community. No doubt the Orokaiva's traditional predilection for small villages of six households or so arose from the comfortable feeling that all households could then be intimate with each other. We find several clusters among Sivepe inhabitants, especially among Seho and Sorovi households, but if preferential partnerships did not exist except inside these clusters, the result would be a division of the village into very loosely connected cliques.

824
431
571
621
128.
[361]

In fact, we find a second connecting principle which I have called the circuit, as it resembles the Hamilton circuit familiar in graph theory. A circuit of *n* households (H1, H2, H3 . . . ,Hn) is defined as a set in which H2 has a

824 'closest mutual relationship' with H1 and H3; H3 with H2 and H4 and so on.
431 Closure of the circuit is achieved if Hn has a 'closest mutual relationship' with
H(n – 1) and H1. The largest such circuit, or near-circuit, connects the great
571 majority of households of all clans and may thus be considered a unifying
621 principle for the village as a whole. The second, much more strongly
128 constructed, links eleven households of the Jegase-Sorovi clans, but includes not
a single Seho household. Even though this circuit of ten households contains two
flaws (wavy instead of hard lines), it is most improbable that it would turn up by
chance.

How circuits are generated in time becomes clear from a study of the recent immigrants from Garombi. Householder 17, before leaving Garombi, had no particularly close links in Sivepe; yet our survey shows him as having two preferential partnerships with old-time Sivepe residents, one Jegase and one Seho (H18 and H16 respectively).

A curious feature is the almost uniform practice of choosing immediate
neighbours as preferential partners. It would be too simple, however, to suppose
that there is a rule whereby one must have these specially frequent exchanges
[361] with one's neighbours. Certainly I never found a trace of such a rule. On the
[209] other hand there are quite complex considerations in the choice of house sites,
such that there is the maximum correspondence between physical and social
distance from others in the village. When social relations between neighbours
become bad, one of them is liable to shift his house elsewhere, so he can be close
to an intimate.

824 The circuit corresponds remarkably well to the Orokaiva system of clan
431 formation. Thus the Jegase 'clan' in Sivepe is actually constituted by four totally
unrelated groups, three of which migrated to Sivepe since the beginning of the
571 century and which gradually grew into a single clan by a process of fusion (See
621 Chapter X). They now occupy six houses and ancillary buildings on the
Jegase-Sorovi circuit, and three houses which form a chain attached to that
128 circuit, i.e. a total of nine houses. Each 'lineage' forms a short chain of its own,
614 and the chains are mostly linked together by uterine bonds. Now it is precisely
these uterine bonds which brought about the fusion of the groups of migrants
into a single clan. Yet this clan was still far more fragmented than Seho.
Therefore, there was not much incentive to clustering, which requires far greater
intimacy than existed among the Jegase.

824 It is precisely the lack of intimacy between small social chains that produced
431 the Sivepe circuits. As we have seen, these circuits are mathematical models built
after the reality of residence and taro exchange patterns. It is characteristic of a
571 circuit that no two households share the same 'closest mutual relationships'.
621 Thus H2 and H3 have a 'closest mutual relationship' but H3 does not share the
128 'closest mutual relationship' between H2 and H1. It is in this respect that a chain
is quite unlike a 'minimal cluster'. The chain arrangement has two practical
consequences: if H1 falls out with H3, H2 will mediate; and if H1 and H3 wish
to co-operate, H2 will normally be a party to the arrangements as these tend to
be made in front of his house, in his hearing and probably in his presence. The
structure provides for the possibility that H3 may draw in H4, H4 may draw in
H5 and so forth. Actual cases of such political action will obviously tend to be

less tidy but lateral communication by means of intermediaries was a pattern to 824
be frequently observed.

The topographical position of a house was therefore at the same time a fixed 431
position in the taro exchange network and in the network of alliances. One 621
could almost tell from where a person lived what that person would do. When 571
fierce arguments and hot abuse rang through the night as two households held a 128
cutting dispute with each other, those households were likely to live at opposite
ends of the village, either at far ends of the chain or at opposite ends of a wider [209]
and looser chain of associations which comprised the village as a whole.

The Seho clusters and the Jegase–Sorovi chain were at opposite sides of the 824
village, but were linked to each other by two connecting chains, consisting
largely of people who lived at the outer ends of the elongated village rectangle. 431
One of these connecting chains was formed by men who came from Soroputa 621
and who married wives from the Seho clan. (H5, H20-H21, H11, H12.) The 614
other connecting chain consisted of Seho and Sorovi householders whose 361 ●
distinguishing feature was that they maintained rather wide taro exchange
networks, had peaceful natures and tried to keep on friendly terms with almost 128
everyone. (H14, H15, H16, H17). The links shown on the sociogram between the Jegase-Sorovi chain and the Seho people are of great interest as they show the degree of closeness between the two main clan formations (Jegase and Seho). Judging from the taro exchange network, these relations are not critically remote but on the other hand not so close that the two sides are in any danger of losing their separate identity.

Leadership in the two clans differed in a manner that is clearly recognisable on 614
the graph. Seho had an aristocratic type of New Guinean 'big man' leadership, the 571
leader (H12) having hardly any real intimates except primary kin who were 554
rather numerous. These primary kin, however, between them, had intimate links 128
with nearly everybody in the village. The leader had preferential partnerships and close connections with a few but not all the Garombi immigrants, using his close contacts as middlemen. The Jegase sociometric star (H5) had a far wider exchange network, including all the Garombi families, and almost nightly there were large gatherings in his *arara*. On the other hand, his primary kin links were far fewer; he depended on the systematic fostering of new associations for his challenge to the Seho leadership. Thus cluster and circuit, the two types of association found in Sivepe, each had its own characteristic form of leadership.

6. *Structural Implications*

We have found that gifts of cooked taro are essentially a woman's gift, and that 824
these gifts, if made continuously at short intervals, are a ritual statement of the 431
maintenance of intimacy between pairs of households. The exchange may be
stated formally in the following diagram: 621

611 men showed loyalty to their affines rather than their clansmen. He also noted a
614 widespread tendency for individuals to identify with the maternal rather than the
paternal clan. Evidence on land tenure, presented by Crocombe, Hogbin and
[429] Rimboldi, provides an impressive list of exceptions to the supposed rule of
patrilineal inheritance and points, in addition, to the feebleness of links between
the local groups making up a dispersed clan.

614 At the time of Williams' study, most Orokaiva villages were composed of a
single clan and comprised little more than six households. The Australian
621 authorities used a good deal of pressure to make the Orokaiva consolidate their
361 hamlets into larger villages which could be more easily patrolled, but by 1951
Belshaw reported that most Orokaiva still lived in hamlets. In 1966 I found a
177 good number of one-clan villages, with populations of around fifty, but the
majority of the people were concentrated in larger settlements in which at least
two local clan groups were residing together.

The local clan group was traditionally the smallest viable military unit, whose duty it was to defend the hamlet territory against outsiders. It had its own military leader, feasting leader, technical and magical experts. In the modern multi-clan village, the corporate scope of the local clan group has declined, as its functions have been taken over by the village. Village feasts, village boundaries, village leadership tend to take the place of the earlier local clan group institutions. Due to these changes, the unity of the local clan group has become more difficult to establish and maintain.

614 Crocombe, Hogbin and Rimoldi have provided full data showing that local
clan groups are often divided into a number of exclusive segments they call
613 'lineages', which are characterised by putative common patrilineal descent from
an ancestor who could often not be named. It is certainly true that we find
important units intermediate between the extended family and the local clan
group. First, it is possible to list four names of such major units within the
Jegase local clan group and the same number within Seho. But the term 'lineage'
might be deceptive unless we define it more closely.

614 If we look at the clan segments in Sivepe (it will soon be clear why I prefer
not to call them 'lineages'), their real distinctive feature is that they either came
613 to Sivepe as migrants from the same village or as members of the same clan.
166 There is no evidence whatever that, in their village of origin, they would
necessarily have been regarded as close kin. Their feeling of being closely related
arose only subsequent to migration. The study of Orokaiva migrant groups, even
comprising just a few families, easily reveals that they tend to consist of one core
family to which others will rally, not because they are related by kinship but
because they want to leave, are good friends of the migrating family and, most
probably, have some kin or friendship links in the village where the group
intends to settle. It is only after arrival there that they may, for ideological and
political reasons, create the fiction of being close patrikin. A number of such
groups fuse with earlier arrivals into larger units bearing a clan name adopted by
all. Hence, for most purposes these smaller units are best described as 'clan
segments', though it may be useful to refer to them as lineages when discussing
informants' statements concerning the patrilineal ideology by which such
groupings are held together.

TABLE X/1

VILLAGE POPULATIONS AND CLAN ORGANISATION

Number of villages investigated: 15

621
614
361

Name	*Population*				
(*a*) *One-Clan Villages:*					
Ajoro	50	Tandai'undi			
Inonda	42	Andiriha			
Irihambo	30	Oripa			
Sombou	70	Pangaripa			
Kakita	24	Hatopa			
(*b*) *Two-Clan Villages:*					
Binduta	100	Jegase	Usohu		
Garombi	132	Sorovi	Betu		
Hamburata	91	Ehirari	Ohuru		
Kongohambo	96	Pugege	Ameti		
Sivepe	137	Jegase	Seho		
Torogota	65	Jeipa	Jaumbi		
(*c*) *Four-Clan Villages*		ve/ih	ih/av	av/so	so/ve[1]
Hohorita	348	Oripa	Besupa	Sehopa	Horeppa
Sasembata	162	Garoha	Pekuma	Ato	Takone[2]
Soroputa	200	Seraopa	Jaja	Java	Timumu
(*d*) *Multi-Clan Villages*					
Kiorota	429			12 clans[3]	

Notes

[1] ve/ih etc. are made up of abridgements of the Orokaiva terms *veari, ihane, avunu, sose*. for which see Chapter X, 5.

[2] No marriages between Seraopa and Jaja are permissible today, but both clans marry preferentially into the Hamburata clans. [582]

[3] This village was settled in 1958 by refugees from the Mount Lamington eruption who previously occupied a number of smaller villages, according to the following pattern: [166]

Homumuta	1 Haripa	2 Penonupa	
Isivita	3 Jegase	4 Berekipa	
Bosisepa	3 Jegase	4 Berekipa	11 Seraopa
Tambore	5 Oetopa	6 Ahungata	
Taremuturu	5 Oetopa	7 Pusaripa	
Pinda	8 Isivupa	9 Juvaripa	
Kandata	10 Jepuripa		
?	12 Omborapa		

583 Forms of dual organisation between pairs of reciprocating groups have always
been of limited scope as the groups tended to reside apart from each other, and
528 each group tended to have marriage exchange relations with several other groups
616 at the same time. Even the short genealogies of Sivepe show evidence that the
families of this village have been participating in no less than twenty-five
reciprocating pairs of groups, the exchange sometimes consisting of no more
[177] than one recorded exchange of women between two villages. Interestingly
enough, it was Australian pressure towards village consolidation that emphasised
[361] the tendency to dual organisation.

First of all, co-residence tends to increase the number of marriages between
361 local clan groups which are thus thrown together. Usually, such local clan groups
178 are already reciprocating pairs, but when co-residence is established, they begin
to reciprocate at a greater rate. For instance, the Seho and Jegase local clan
614 groups in Sivepe, comprising together sixteen households, are linked by seven
583 current Seho-Jegase marriages. This was sufficient to define the seven Seho
households and the nine Jegase households as standing in an affinal relation to
one another.

614 In such a village the other households tend to be classified as adhering to one
of the two dominant local clan groups. A few years before I came to Sivepe,
621 Rimoldi and Waddel had both visited the village and recorded the presence of a
166 third local clan group, called Timumu. On my arrival I found that this group,
616 consisting of three households, had adopted the Jegase clan name, thus
establishing a tidy dualist pattern between one group defined as agnates and a
second group defined as affines. A few months before I settled in Sivepe, six
households migrated there from Garombi. All the men were members of the
Sorovi clan, though of different lineages. A year after they migrated, five of the
householders were classified as part of the Jegase clan (by the use of sibling
terms of address) while the sixth was classified as part of the Seho clan.

621 I found a similar pattern in eleven other multi-clan villages I visited. When I
first inquired, I was mostly told that they were two-clan villages, the names of
614 the clans being given in each case. Two of the villages were said to have four
616 clans, two pairs of two. Whenever I sought detailed data, I found male
householders belonging to additional clans. In Hohorita I was told that the front
half was inhabited by two clans, and the back half by two further clans. In fact
twelve clans were represented; when this came to light, my informants explained
to me that the clan names I had been given at first were those of the 'main'
clans. There seemed to be a strong ideological notion that a multi-clan village (or
[582] village section) should consist of two local clan groups. Furthermore, this
arrangement affects the marriage rules: once Timumu became joined with Jegase
under the same clan name, marriages between the two fused local clan, groups
became prohibited.

5. *Complementary Opposition in Village Topography*

If the reduction of multi-clan to two-clan villages had occurred only in Sivepe and a few other villages, it could easily be explained solely by processes of clan fusion which are prevalent throughout the area and which will be discussed further below. But I found it to be a regular feature of the

consolidated Orokaiva villages I visited. Yet historical evidence of earlier 621
settlements precludes the supposition that co-residence of reciprocating marriage 614
groups was ever a regular practice or a preferential rule. Such co-residence can be
explained only by Australian pressure towards village consolidation. Far from 616
being congenial to the Orokavia, it may better be regarded as a major potential cause [583]
of strain. When the Australian administration planned to intensify this
consolidation policy after the Mount Lamington eruption in 1951, Belshaw [177]
rightly warned the authorities in a published paper (1951) that the enforced [578]
co-residence of affines would create serious social strains which might impede
the administration's social development objectives. The Orokaiva response to
these social strains appears to have been to restructure the multi-clan villages and
give them an organisational form they are more easily able to handle. Under this
arrangement agnates, uterine kin and affines live together in the same village but
are sorted into two groups of real or fictional agnates. These two groups have
affinal relations with one another and stand in complementary opposition in
social and political affairs.

In some villages this complementary opposition is further expressed in the 361
position of the two groups in village topography. Nearly all Orokaiva villages are 616
built in two facing rows separated by a fairly wide grassed area known as the
araha. For cosmological reasons that do not concern us here, these rows tend to
run in the direction of the top of Mount Lamington – from downhill (*veari*) to
uphill (*avunu*). The two rows are known as *mende* or *bende*, a word which may
mean 'nose' or 'hillock' or 'side of a village'. The two sides are designated as
ihane and *sose*, *ihane* being to the right of a person facing the mountain, *sose* on
the left. In 1965, when Sivepe was rebuilt on a new site, all Seho men built their
houses on the *ihane* side while all Jegase men built on the *sose* side.

Outwardly, the topography of this new Sivepe does not differ significantly 361
from the earliest descriptions we have of Orokaiva villages in the early 616
post-contact period. These villages also had two sides. They had the same short
connecting lines of houses at the *avunu* and *veari* ends of the village. Williams 621
reports that these connecting lines prevent spirits from coming into the *araha*.
The only differences are in size and in the style of the houses. The basic
innovation in New Sivepe lies in the arrangement of social groups on the village
site. Real or assumed agnatic links now exist between all the householders on
each side, whereas affinal relations exist between all the householders of one side
and the other. The door openings of the affines face each other, but they are
separated by the wide field of the *araha*. When people sit down to smoke and
chew betelnut in front of their houses, there is easy movement between
residents who live on the same side. They frequently visit each other's fires
without any ceremony. But one does not cross the *araha* to sit on the other side
without a serious purpose. One watches what happens on the other side; one
does not always hear it. There is frequent and friendly contact between the sides
but it is clear to the observer that the physical distance between them symbolises
an equally real social distance.

This residential arrangement between affines is not traditional. If affines 361
happened to live in a traditional hamlet there were no formal patterns for 616
keeping them at a physical distance. When multi-clan villages were first 614
established, households of the various clans were placed next to each other in a 621
[178]

●361
102
614
133
487

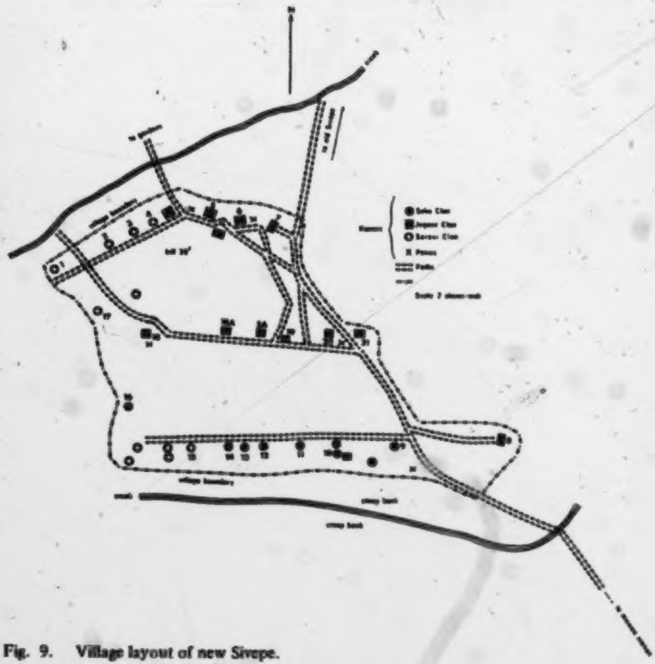

Fig. 9. Village layout of new Sivepe.

361 rather irregular pattern. Village plans of Sivepe drawn by Rimoldi and Waddell in
616 1963 and 1964 show no formal separation between the clans. Some neighbour-
ing villages, such as Garombi, however, did allocate one side to each of their two
614 clans. The fact that Sivepe introduced this pattern in 1965 has no particular
621 explanation except that it appealed to the Seho clan leader who supplied the
land for the village site. One might describe his innovation as an idiosyncrasy or
a fashion but at the same time it is significant that the pattern of residence he
introduced resembles that familiar to anthropologists in the many parts of the
world where exogamous moieties are found.

583 I have now shown most of the evidence for direct marriage exchange and
616 forms of dual organisation. The question that remains to be answered is why this
121 system was so fitfully practised. Are the discrepant cases to be explained merely
by organisational factors such as lack of choice, the vicissitudes of war, the need
for alliances? Or are there present in the culture a further set of rules related to
marriage which we have not yet considered and which are irreconcilable with the
principle of direct marriage exchange?

5: Schwimmer E-4,5 (1966-1967) 1973
OJ23 Orokaiva OJ23
Mountain Orokaiva

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133
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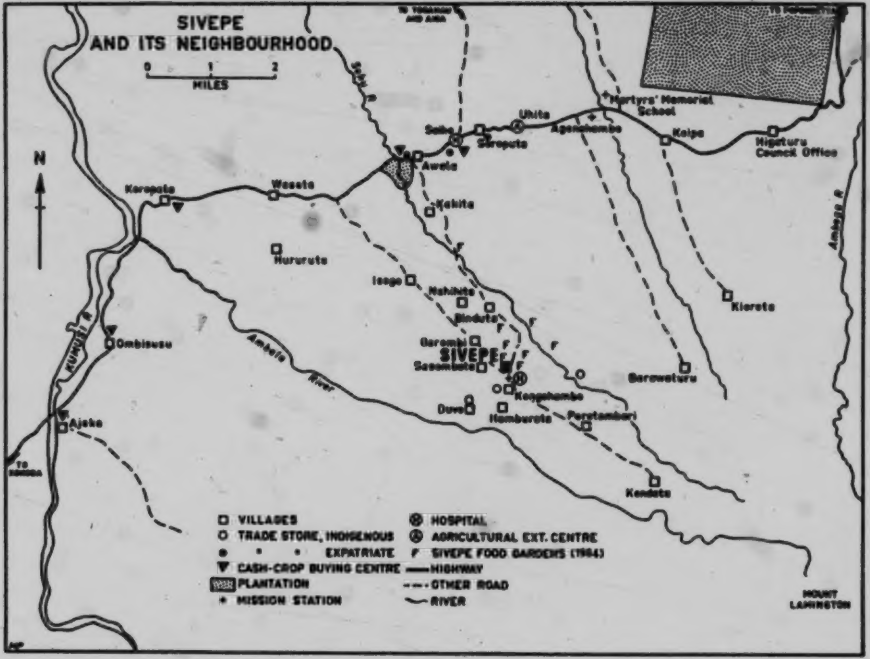

SIVEPE
AND ITS NEIGHBOURHOOD
0 1 2
MILES
N
Koropata
Waseta
Saiha R.
Saiho
Seraputa
Uhita
Agenahambo
Martyrs' Memorial School
Koipa
Higaturu Council Office
Awala
Kakita
Hururuta
Isoga
Nahihita
Binduta
Garombi
SIVEPE
Sasembata
Kongohambo
Duva
Hamburata
Peratembari
Baroweturu
Kiorete
Kendata
Ombisusu
Kumusi R.
Ajeka
Ambala River
Ambogo R.
MOUNT LAMINGTON
VILLAGES
TRADE STORE, INDIGENOUS
EXPATRIATE
CASH-CROP BUYING CENTRE
PLANTATION
MISSION STATION
HOSPITAL
AGRICULTURAL EXT. CENTRE
SIVEPE FOOD GARDENS (1964)
HIGHWAY
OTHER ROAD
RIVER

Fig. 10. Sivepe and its neighbourhood.

group.(1) Group planting seems to have been the general 657
pattern in other parts of the Territory too. In the Western 241
District in particular, the Resident Magistrate initiated schemes
for cash crop plantations being owned and operated by each [423]
village as a whole. Profits were to be used for projects which
would be of benefit to the village community (P.A.R. 1913-14:12). [434]
About fifty such plantations were established under the scheme.

During this post-war drive (and probably in 1920) a 657
government officer assembled the people of the nine villages(2)
of the northern branch of the Asigi tribe and instructed them to 245
choose a site and plant an area of coconuts for the nine villages
as a whole.(3)

A central site was chosen near Ongoho on land be- 245
longing to the Akute'undi sub-clan (most of the members of
which lived in Ongoho village), and about 500 coconuts were
planted as a community project by the men of the nine
villages.(4) They were to be used exclusively for copra making
(there were ample coconut trees in the villages for domestic
use) and work and profits were to be shared equally among the
able-bodied men. Small plots of rubber and citrus trees had [249]
been established at Ongoho under the same scheme a year or
two earlier. The citrus was intended to be used primarily as a
latex coagulant for the rubber, and only secondarily as a cash [433]
crop.

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(1) In some instances in the coastal villages of the Northern District each individual planted his own trees, but all villagers planted in one "village" block on the land of one man or of one descent group.

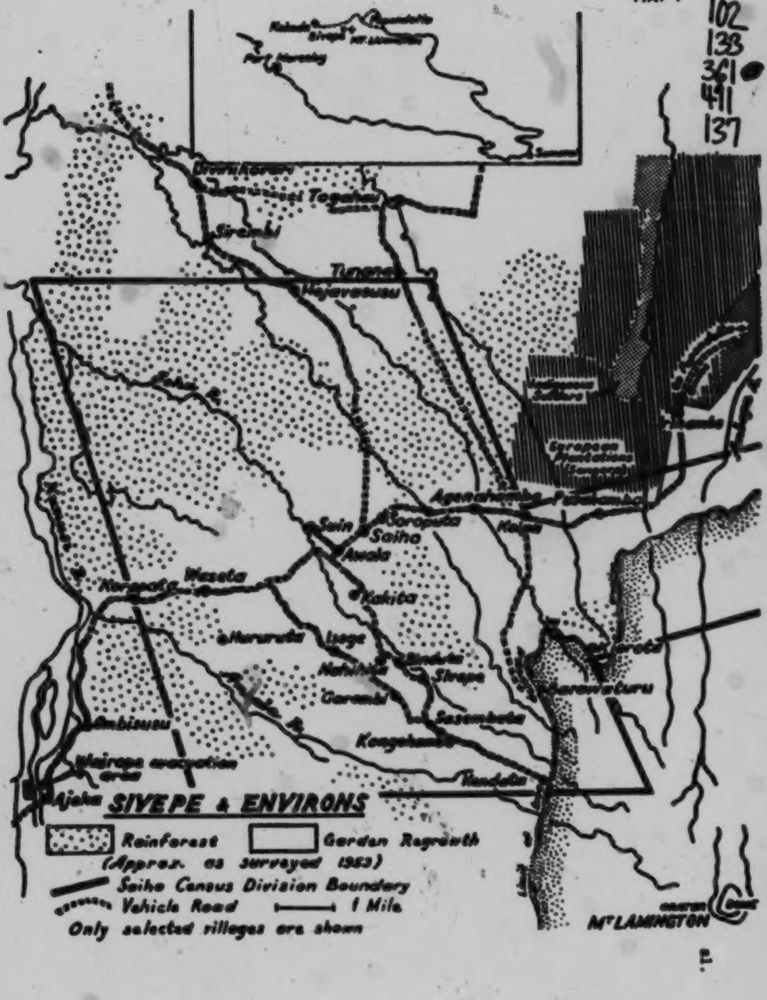
(2) Ongoho, Hongorata, Ivisusu, Sowai, Weki, Ondahari, Oere, Girigirita and [361]
Heherita. Sowai and Weki were later abandoned and today their populations live
together at a new village named Sotokoiari. Likewise Girigirita and Heherita have [103]
amalgamated and moved to a new site. The new village is called Girigirita.

(3) Data in this section of the report was collected by interview only in the villages [124]
concerned during April-May 1963.

[101]
(4) The annual reports show that in 1921 there were 518 coconut trees over five years old and 1,287 under five years old in the Asigi area. The nine villages listed above comprise about half of the total Asigi population. The 518 mature trees were probably those planted in the villages. Trees in the community block which did not survive were not replaced, and as the ground has not been cleared since the second world war, many have died. There were 198 trees still standing in 1963.

MAP 1

102
133
361
411
137


Port Moresby
Sivepe
Togahai
Sirembi
Saiho
Sain
Awala
Kakita
Waseta
Isoge
Sivepe
Garombi
Sasembata
Ambisusu
Wairope evacuation area
Ajeka
European Plantations
Agenahambo
Mt LAMINGTON

SIVEPE & ENVIRONS

▨ Rainforest ☐ Garden Regrowth
(Approx. as surveyed 1953)
Saiho Census Division Boundary
Vehicle Road 1 Mile
Only selected villages are shown

101 [133] [162] tribe, which included Sivepe. It occupied the volcanic slopes under fairly uniform and distinctive ecological conditions. The mountain Orokaiva now include roughly the 8,000 people in the closely-settled Saiho Census Division areas, that is, the people who have been called 'Wasida' or 'Periho'. They also include the members of the few adjacent villages who are the only 'Sangara' people surviving the 1951 eruption of the volcano.

624 ● [361] Belshaw (1951:2) reported that among the mountain Orokaiva until 1951 'the residential group...consisted of a number of separated hamlets.... Hamlets grouped themselves together under a common name, such as Wasita 1, Isivita 1, Isivita 2 etc.... Each hamlet group, or "village" in administrative parlance, was separated geographically from its neighbouring hamlet group'. The two 'villages', Isivita 1 and 2, had comprised 19 named 'hamlets' and represented the Isivita 'native district' which, Plant[1] (1951: Appendix 4) says was joined with the Sasembata (8 hamlets), Koropata, Wasita, Awala, Soroputa, Sairopi, Mumuni and Wairopi districts[2] to form the Periho tribe. This 'closely approximates to' what Williams called the Wasida tribe.

[162] Shortly before the eruption of Mt Lamington in 1951, Sivepe, Binduta, Mahihita, Pusahambo, Korinasusu and Heherita[3] were grouped under the name of Awala 2 and had a total population of 250,[4] compared with the range of 150 to 400 which Belshaw (1951:2) attributes to 'hamlet groups' in the area. There is a radical difference in size between the small hamlet described by Belshaw and the characteristic nucleated village of post-eruption years (excluding interim evacuation 'camps'). Nevertheless, we hereafter refer to both as a 'village' when not quoting. This does not

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[1] Plant uses the term 'village group' for Belshaw's 'hamlet group' or 'village'. Williams (1930:131) refers to Belshaw's 'hamlet' sometimes as a 'village' and sometimes as a 'village group'.

[2] He earlier (1951:3) omitted Mumuni and Wairopi - see p.31. On Map 1 see Hururuta for Mumuni District, and Ombisusu-Ajeka area for Wairopi District; the Sairopi people are about 4 miles south of the Mumuni.

[3] The last 3 'hamlets' were not re-formed after the eruption; another which was established about this time took the name Awala No.2.

[4] In a sample of 50 nearby hamlets in other groups in the Saiho Census Division the average hamlet size was 36 persons as against 41 in this group. Note also that in 1923 the Awala hamlets (including those in Awala 1) may have numbered 15 (Williams:W.83).

C21 obscure any important differences in structure and our historical
361 data are not complete enough to permit of consistent distinctions,
according to size, between 'hamlets' and 'villages'. The village
[162] of Sivepe now has a population of 120 and is linked with Binduta,
[632] several hundred yards away, and with Mahihita half a mile away, to
form a unit in Administration censuses. The 3 villages, together
with Awala No.2,[1] form a local government council electorate.

131 Sivepe is situated on the western bank of the Sohu River, a
491 tributary of the Kumusi River, about 25 miles by road south-west
of Popondetta and roughly 7 miles north-west of the crater of
Mt Lamington. It is on a jeep road leading from Kendata, high on
[133] the Mt Lamington slopes, to Awala, which lies 3¼ miles north of
Sivepe on the Kokoda-Popondetta road. The minor road was constructed in about 1944 following the route of an old track. Between Awala and Sivepe it is marked by the sites of 9 abandoned villages, first visible indication of the history of close settlement on the country it traverses.

797 There were very few facilities for formal education in this
tribal area until shortly after the second world war when a number
871 of mission schools, staffed by Papuan teachers, were established
through the area and 'minor elementary education was brought to over 90% of children of a varied age range' (Belshaw 1951:2).

An Anglican Mission primary school was established at Sasembata, 1 mile south of Sivepe, in 1945 and a European teacher has been on the staff since 1951; 9 of the 13 children of approximately school age in the group we studied now attend.[2] Some children from Sivepe are pupils at Martyrs' Anglican Mission school several miles away at Agenahambo. A primary T school[3] was established at Awala in 1961 but no Sivepe children are pupils there.

Several villagers regularly attend the church at Sasembata, which is in the charge of a Papuan priest, and most make periodic use of the medical services provided by the mission sister. Some women consult an infant welfare clinic formerly available at the mission on alternate Tuesdays and some have joined a women's sewing class held on Wednesdays.

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[1] To be distinguished from Awala 2, the 'hamlet group'.

[2] The ages of pupils in the 4 grades would range roughly from 5 to 15 years.

[3] A government school for Papuans at which the curriculum is adjusted to the needs or sophistication of the local pupils - as distinct from primary A schools, attended almost wholly by European children, where the syllabus is set by the N.S.W. Department of Education.

128 Besides data collected on a standard series of topics investigated in the related series mentioned above, our report also includes discussion of the relationships between land tenure and land use on the one hand and residential and local organization on the other - questions which have been raised by anthropologists and administrators writing on this Orokaiva area.

731 The population displaced and resettled after the eruption were
almost all mountain Orokaiva; one legacy of these events was the
178 protracted complication of land tenure, which some of the people
[623] later found an obstruction when they were caught up in a general
increase in enthusiasm for cash-cropping. This coincided with
the formation of the Higaturu Council whose membership consisted
in large part of the mountain Orokaiva.

657 Community development plans made after the eruption[1] were never
successfully launched, but the tenure situation in the council
178 territory and specific areas of acute land-consciousness are the
problems which patrol staff felt made it essential to regularize
the tenure of cash crops at this time.

241 In 1951 Keesing expected that the marked trend towards larger
settlements witnessed after the eruption would, as a matter of
178 course, be reversed as circumstances permitted villagers to revert
to their normal horticulture involving frequent rotation of
●[361] cultivated areas; paradoxically, it was in view of the spreading
enthusiasm of the Orokaiva for a more intensive, commercial
agriculture about 5 years later, that some mission staff
anticipated similar fragmentation of the same large villages.

361 Considerable topical interest is given to the question of the
178 connections between settlement patterns, agricultural systems and
title to land by current changes in the Orokaiva area which have
[121] implications of further radical adjustments in residential patterns.
In a recent development a few local government councillors had
initial success in advocating the consolidation of villages
apparently as a means of establishing an economic base for the
provision of local services or amenities. Members of Sivepe and
other villages decided to rebuild together on land near Sasembata
(E. Waddell: personal communication). Staff of the mission have
for many years favoured this type of settlement among its Orokaiva
[657] parishioners.[2] Although, with consistent effort, patrol staff of the
Department of District Administration achieved the periodic amalgamation of pre-eruption villages, the department did not endorse the
recent move and pointed out that councillors acted independently
of any decision of the council or advice of its executive.

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[1] Mentioned by Belshaw 1951.

[2] See Crocombe 1964:31.

361 Moreover, the Yega cocoa project[1] has had a remarkable demonstration effect throughout the Orokaiva area; land development along similar lines as at Ombisusu is nearly everywhere under serious [657] consideration and, whenever undertaken, may be assumed to involve some degree of resettlement on individual blocks. It is now government policy in the district to foster this spread of smallholder projects as a matter of high priority.[2]

121 We have attempted some comparative discussion by introducing material on another area of closely settled populations, Chimbu.[3] Firstly, this provides contrasts in patterns of residence and mobility, the intensity of subsistence cultivation and in the results of changes in land use. The Chimbu example is an appropriate test case regarding arguments for certain necessary connections between local systems of agriculture, the stability of settlement and the potential for schemes for land development among these Orokaiva. The settlement pattern eventually formed after the eruption affords data for instructive but not conclusive comparison with the pre-eruption situation. Secondly, a consideration of Chimbu land tenure and local organization throws some light on our Orokaiva data.

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[1] This is fully discussed by Dakeyne 1965.

[2] In late 1964 the many individuals interested in these schemes showed considerable interest in the new Land Tenure (Conversion) Ordinance, 1964 (Edric Eupu: personal communication).

[3] See p. 72 ff.

614 clan distribution can be obtained from the following summary of diverse information from the mountain Orokaiva and the Aiga.

621 The people grouped under the names Isivita 1 and 2 and Sasembata 1 and 2 numbered more than 1,600 in 1948 and occupied 614 44 villages. By the time of the eruption in 1951 the number of villages had been reduced to 27 (see Plant 1951: Appendix 3) and 40 clans had branches in one or more of them - there were at least 17 clan branches in villages other than these, representing 6 of the 40 clans. Eleven of the Isivita and Sasembata villages consisted only of members of 1 clan, although only 3 of these villages constituted a whole clan.

Williams (1928:124; 1930:101) suggests that a periodic increase in the 'multiplicity of small clans', caused by subdivision, is only 'in part neutralised by the dying out of older clans'. He says that there is a marked consistency in clan organization throughout the Orokaiva area (1925:406)[1] and in 1923 the generalisation that 'local and lineal groups seem to be largely coincident' [648] was true of the Jegasi-Sarahu, i.e., the Wasida group of villages (W.10, 31). In this context he adds that this pattern was altered [177] somewhat by the dispersal caused by a special factor: an attack by the first government patrol on Wasida and neighbouring villages. He does not record the relevant clan branches present in local groups other than the 15 Jegasi-Sarahu villages of the tribe, but 5 of the 7 clans listed are seen to be represented in more than one village. However, only 2 of the 15 villages contained 2 clan [361] branches. The average village consisted of 6 houses (normally nuclear families) and a single-boys' house (W.1), perhaps 25 people in all.

Data collected in 1924 among the Aiga show that there were 37 clans among the 50 villages of the tribe, with an average of about 35 members, or perhaps 'a dozen families', in each clan (Williams 1930:7, 101; 1925:418). Williams says that the 'normal', 'typical' or 'original' residential group was the 'clan-village' - clan and village were coextensive (1925:407; 1928:124; 1930:103, 310; and 107, 131) - but notes that in the larger villages there were 'often two clans or more' (1925:407). In fact, 12 of the 24 clans listed in 36 of the Aiga villages had 2 or more branches there (O.19, 20). Yet Williams might then have argued that in such instances fission would soon be completed and 'the normal conditions restored, viz. the clan locally unified and in

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[1] Cf. Reay 1953:110: Williams' information on the Aiga, Binandele and Tain Daware tribes reveals 'a social organization practically identical with that of the Wasida people'; see also Williams 1930:7.

614 701 safety. Plant for instance (1951:3) notes that the Isivita villages, strategically situated on a ridge, would occasionally give refuge to fellow tribesmen though not every district would usually have recourse to join the Isivita.

619 [614] [701] Williams ascribes the formation of 'somewhat loose' and temporary 'confederacies of clans', which conducted raids upon the tribe's kitoho, to a local spirit. But it is not clear whether by this he means the identification of members of a tribe with one territory or the unity of the 'locality group' which usually takes in a number of 'clan-village units' (see p.34) and which he describes as a more restricted 'sympathy-group' than the tribe (1930:107, 157, 163, 309-12). When he states (1925:407) that 'over and above clan patriarchs there are recognised leaders of small clan confederacies and even - in war-time - of tribes', he seems to equate the tribe with the district among the mountain Orokaiva (in particular Wasida and Isivita; see W.23, 124).[1]

[634] However, neither the district nor any other local grouping among the mountain Orokaiva was an independent political unit. The territory of this tribe was not so compact as to call for (or even to enable) all its constituent local groups to give continuous mutual support in protecting the integrity of the area they occupied. Nevertheless members of discrete local groups continually formed ad hoc alliances across district boundaries. It is clear that the regular chains of alliances encompassed a wider area than usually described as the tribe (whether Jegasi-Sarahu, Wasida or Periho).

721 The usual stratagem of the isoro was the surprise attack on 1 or 2 selected villages. In these circumstances the victims were able to summon only immediate neighbours to help ward off the attackers and proximity was at least one of the common principles by which specific villages combined in retaliatory raids.

621 361 An indication that within this tribe the named local groups of villages were territorially distinct units is Belshaw's statement that the population was divided into 'hamlet groups' like Awala 2,

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[721] [1] There is some doubt whether the evidence in these cases shows that there was even a military leadership in the district (and war is said to have been almost perpetual). The title of the former leader of Isivita (who had not been replaced) is given as embo javoari and the literal meaning is given (1930:104) as 'the man who gives the name' (cf. embo javo vahai, Crocombe and Hogbin 1963:17), i.e., the deceased eponymous ancestor of one clan. The last renowned war-leader among the Wasida may have been the embo peni (javo), lit. man-big (-name), of a group no larger than a village or clan (see 1925:417; W.23).

621 each separated geographically from its neighbours.[1] There is also Williams' point (W.28) that in 1923 there was unclaimed land
361 adjoining the 'hamlets' in the unit named Wasida (i.e., Jegasi-Serahu). Like most other districts this consisted of two 'hamlet groups'. Norton (1962:6) says that sometimes villages, which 'are
[712] known to have been quite large' and stockaded (cf. Williams 1930:67, 164-6), were separated by tracts of unclaimed virgin land until the time of the suppression of feuding.

[701] [184] This combination for better defence may have been characteristic of tribes throughout the Orokaiva area. We believe, however, that the subdividing of the tribe into discrete named groups of named villages (either district or 'hamlet group') would be unique to the mountain Orokaiva in the culture area; we do not have enough evidence to show if this feature is related to the earlier clustering for safety, and to the greater population density in this tribe.

The emergence of tribal subdivisions at this level, however limited or occasional their independence, seems consistent with the uncertainties encountered by observers in seeking to determine the limits, the local name and the distinctive cultural and linguistic characteristics of the inclusive political unit.[2]

613 [128] At this point we shall identify the local patrilineal groups to be mentioned in the following resumé of the history of local settlement and then make a preliminary comment on landholding by individuals.

The members of Jegase clan in Sivepe are divided among 4 named subgroups, each claiming to trace its origins to either of 2 contiguous villages occupied by all the ancestors of the Jegase in the neighbourhood. We shall call these subgroups lineages; they are Bebehupa,[3] Sesewopa, Berekipa and Arehu. A fifth lineage called Hambai or Hambai'embo has died out only in the present generation, yet all but the key members of the group and a little

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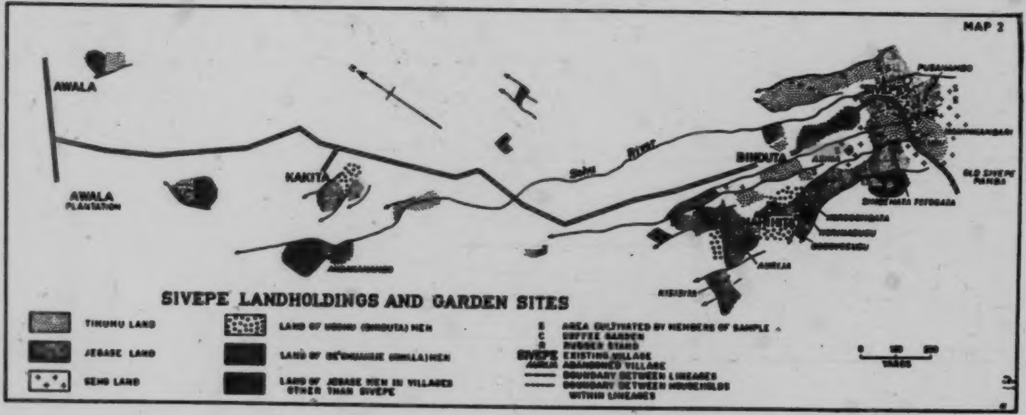
[1] Seldom does the territory of a 'district' at present clearly appear distinct from others, and that of a 'hamlet group' even more rarely.

[128] [2] Either 'parish' or 'subtribe' could be considered as a term for such a unit within the tribe. But rather than add to the confusion of terms used in descriptions of local organization we retain the terms which we have already adopted.

[197] [3] The suffix -pa (or -ja, female) should strictly be used in addressing or referring to an individual member, but it now seems to be common local usage to refer to a group itself in this way, and we shall follow this usage.


MAP 2
AWALA
AWALA PLANTATION
KAKITA
Sivi River
BINDUTA
OLD SIVEPE
SIVEPE LANDHOLDINGS AND GARDEN SITES
TINUMU LAND
JEBASE LAND
SEMO LAND
LAND OF (BINDUTA) MEN
LAND OF
LAND OF JEBASE MEN IN VILLAGES OTHER THAN SIVEPE
S AREA CULTIVATED BY MEMBERS OF SAMPLE
C COFFEE GARDEN
R RUBBER STAND
SIVEPE EXISTING VILLAGE
ABANDONED VILLAGE
BOUNDARY BETWEEN LINEAGES
BOUNDARY BETWEEN HOUSEHOLDS WITHIN LINEAGES
0 100 200
YARDS

102
361
133
311

177 in Papua (Territory of Papua 1908-9:19). In 1904, 4 village
464 constables had been appointed from the peoples along the new road.
By 1908 members of the various tribes were peaceably trading with
625 the carriers along the road (Territory of Papua 1907-8:22).

In about 50 years preceding the establishment of their present
166 village the groups now represented in Sivepe had between them
been involved in shifts of residence between a series of 14
361 village sites within an area of about 2 square miles adjoining
177 the Sohu River. Informants claimed that they or their ancestors
moved from 11 of these under instructions from government officers
to amalgamate into larger units. During this period members of
several other descent groups have either accompanied them or
established independent villages and worked land of their own in
[621] the same area. Intermarriage among contemporary villages there
was common and individuals frequently moved from one to join kin
in another.

166 The 4 Jegase lineages can trace the history of their groups
back to a point of common origin in the first decade of the
361 century in the village of Simbehata and its 'satellite' Totogata,
both on what is now Jegase land hardly a mile from the present
613 site of Sivepe.[1]

(1) Migration 1900-50: The Bebehupa moved from Simbehata to Koregombata[2] and were joined by some members of Usohu living nearby.[3] Except for 3 families which moved out to form Kisisita, Aurija and Andakahambo villages, they remained there until about 1937 when they were asked by the Administration to reunite with these 3 to establish Korinasusu. One of the 2 major pre-war tracks from the coast to Kokoda lay nearby and when Japanese and Australian troops moved along this in 1942 the people abandoned the village and moved into isolated garden huts. Most villagers returned to Korinasusu after the war but 1 group founded Nahihita nearby.

[657] In 1950 the Administration instructed the Bebehupa of
Korinasusu and Nahihita to join the Usohu people living in
Gogovosusu and Binduta to form one large village. Up to that
time the villages had been confined to Jegase land but because

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[1] For place names mentioned in this section see Map.2.[A]

[2] Mentioned as a 'Jegase village' by Williams in 1923 (W.83), as are Sivepe, Pusahambo and Haninkumbari (see pp.34-7). He also lists them as Awala villages.

[3] A number of the older Jegase men claimed that the Usohu people formerly regarded themselves as members of Jegase clan.

A. [See Category 102, p. 40--Analyst]

166 the Jegase people had no land on the Awala-Kendata road nearby,
where they decided to build, they acquired rights to house-sites
361 on the road on the land of the Be'ohuahije[1] in return for rights
613 granted to some members of that clan to build on Jegase land 3
miles away at Awala No.1. The Jegase people had begun to move to
[425] the new village, now Binduta, when Mt Lamington erupted. Although
[731] they were outside the limits of the area of destruction the people
were evacuated for safety.

The Sesevopa, a small lineage, had accompanied the Bebehupa in their moves to Korogombata, Korinasusu and Binduta.

The Berekipa and the Arehu according to the men of Bebehupa, which is the dominant Jegase lineage, are groups which have attached themselves to the authentic part of the clan. The ancestor of 2 of the 3 Berekipa householders in Sivepe had also lived at Simbehata. It is generally conceded that he was a Jegase man but he left Simbehata to establish Euru village and then moved across the Sohu River to Hamburata several miles to the east near the present Kiorota, where he cleared and laid claim to virgin land about 1910.

[682] The father's father (b1)[2] of the oldest householder, another Jegase man from Simbehata village, was killed near Divinikovari in a feud with the Togahau people. On his death his infant son (c1) was adopted by his wife's brother at Hamburata village and his land was taken over by other Jegase men. The son had been named after a Timumu man[3] of Euru village who allocated a parcel of land for his use, when, as an adult, he returned from Hamburata relinquishing any land rights he held there. He gardened for some time on the land of his sister's husband, a Be'ohuahije man but re-established rights to a number of parcels of his father's land which had been controlled by Bebehupa and Arehu lineages in his absence. He founded Pusahambo village on this land about 1920 and was joined by his wife's brother, a descendant of the first migrant from Simbehata to Hamburata. When he died at Pusahambo his sister's son (d2J) married his widow[4] and adopted one of his sons, now head of the second Berekipa household in Sivepe (d3J). This man's son is the third Berekipa household head (e2J).

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[1] The Be'ohuahije formerly lived in the nearby villages of Saunhambo and Hehereta and their land adjoins Sivepe village.

[2] See Genealogy, p.52. A

[3] For relationship between namesakes (tato) see Williams 1930:96.

[4] See Williams 1930:132: 'There is no rule against marrying out of one's generation.'

A, [See Category 601, p. 52--Analyst]

166 361 613 Neither the man nor his son has every cultivated his patrimonial land at Hamburata although they hunt and fish there. The man makes these periodic visits to affirm his rights as he claims that constant surveillance is necessary to forestall encroachment on his land. His father's brother controls the land in his absence.

By 1950 the members of the Berekipa households who numbered 12 had thus acquired only 5 parcels of land (totalling 9 acres) near Sivepe since the lineage returned from Hamburata 30 years before, [657] and had to rely on other lineages for access to adequate land. After the war the Berekipa were asked by the Administration to move from Pusahambo to a village called Pamba where Arehu lineage was living. They seem to have been largely dependent on the Arehu and on affines elsewhere for planting rights since then.

The Arehu people had founded Totogata next to Simbehata and remained there after the other Jegase people had moved on to Euru and Korogombata. Some members of Bebehupa lineage, in refusing to recognise Arehu as a genuine Jegase lineage, explain that it is an immigrant group descended from a Togahau man of Arehu clan[1] who was adopted as a child after a Jegase raid on the Togahau. The land the group now holds is centred on Simbehata and the Bebehupa, although they take little interest in it, allege that it was acquired when the Jegase man from Simbehata was killed at Divinikovari. The Arehu have retained and strengthened their rights over the years and to all effects have become absorbed into the local branch of the clan, extending their effective ties there by intermarrying with other lineages. When pressed, the only resident male (d4J) even answers questions about the position ascribed to him as one of the agnates in the local group by [578] stressing that he and his father married Jegase women, as if no more need be said. The grandson of the alleged original landholder has disputed the rights of the Arehu man to the parcel of land on which the old village Simbehata was situated.

[657] Several years after the ancestors of the Bebehupa left Simbehata the Arehu were told by a government officer to amalgamate with other Jegase people and with the members of Timumu and Seho clans from Euru and Asina. The village formed on Seho land was old Sivepe with its satellite, Pamba; most of the people stayed there until they fled the Mt Lamington eruption in January 1951.

The Pekuma and Hajejopa lineages of Timumu clan had both joined the Jegase and Seho people in founding old Sivepe. The fathers

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[1] This clan today is represented in Sirembi village in Togahau Census Division and possibly in other villages there. In 1923 Williams (0.1) noted that they were also present in the villages of Porori and Ohamba.

[TEXT CONTINUED ON PAGE 45]

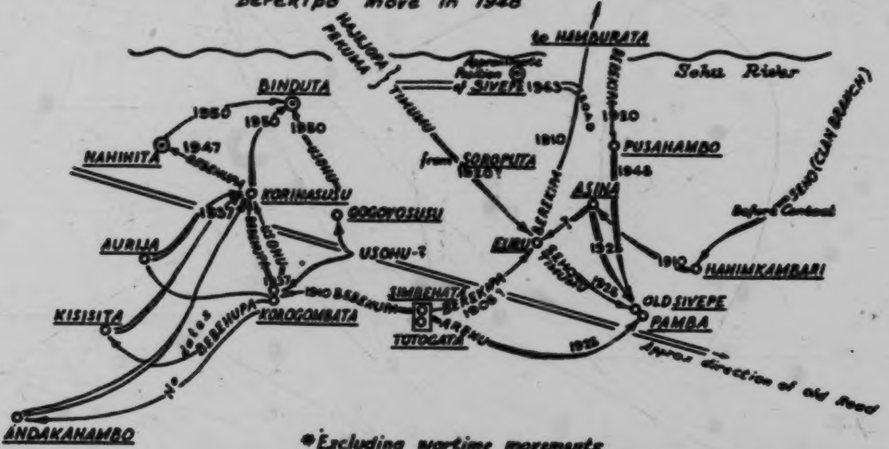
166
361
491
102

SCHEMA OF MAJOR LOCAL MIGRATIONS 1900-1950*

● Extant Village ○ Village now abandoned

⊡ Original Centre of Dispersal of Jegase

Double lines on arrow indicating a movement means that village was thereby abandoned
Movements with same date and destination were directed by administration, as was Berekipo move in 1948


to HAMBURATA
HAMBURATA
Soha River
NAHIHOPA
PEKUMA
Approximate Position of SIVEPE
1963
ROAD
BINDUTA
1950
1950
1950
NAHINITA
1947
KORINASUSU
GOGOYOSUSU
USOHU
AURLIA
USOHU-?
KISISITA
KOROGOMBATA
BEREHUPA
1910 BEREHUPA
SIMBEHATA
TOTOGATA
AREKU
1928
ANDAKANAMBO
TIHUNU
from SOROPUTA 1920?
1910
1930
PUSAHAMBO
1948
ASINA
EIRU
BEREKIPA
BEREKIPO 1908?
1925
1926
OLD SIVEPE
PAMBA
1910
HANIMKAMBARI
SEHO (CLAN BRANCH)
Before Contact
Approx direction of old Road

*Excluding wartime movements
Relative positions of villages are distorted for the sake of clarity. (See Map 2.) Most prewar dates have a margin of error of at least 5 years: Figures are given only to indicate sequences. Dates most in doubt are marked ?

166 361 613 of the 2 senior men of Sivepe had divided their allegiance between branches of the clan at Euru and Soroputa and had exercised rights to land near both places. Since the death of his father the Pekuma man (d1T) has lived first in Euru and then Sivepe with his mother's kin and later his wife's kin. He and his adopted son (e1T) hold 28 acres nearby but he has never cultivated the land his father used at Soroputa; he sometimes obtains the permission of his father's brother to collect the produce from trees his father planted (see p.24).[A]

About the time the older Hajejopa man (d15T) established his household at Euru, he was involved in a dispute with his father's kin from Soroputa who wanted him to return or else relinquish his rights to the land his father had cultivated there before settling permanently at Euru. Like the Pekuma man he preferred to settle on the comparatively large landholdings (18 acres) near Sivepe and severed most connections with Soroputa.

731 361 (ii) Changes following the 1951 eruption. Sivepe-Pamba and Binduta were a few miles outside the area destroyed by the major eruption. Referring to the population of these marginal areas Keesing (1951:3) says that 'after the first panic of scattering... local groupings were in the main able to reassemble in the regional camps with such official aid as was necessary'. Refugees from the west side of the mountain were collected from emergency encampments along the Kokoda road and taken to a regional camp first at Wairope and then at Ilimo near the Kumusi River. The villages of the Jegase and Timumu were included in the danger zone which was defined about 4 months after the first eruption. They were about 7 miles from the summit and the danger area extended for 8 to 12 miles around the active crater.

When the limits of the zone were determined about 3,000 people whose villages were not closed off or who could find kinsmen to live with in resettlement areas outside the zone left the refugee camps. Most of the 2,000 who remained for some time at Ilimo were from the villages such as Sivepe on the more fertile land higher up the west and north-west slopes. Members of our sample however left to live with clansmen or other kin at Awala No.2 on the main road. [578] In the chain of fairly continuous settlements which grew along the road great uncertainty surrounded land use problems. There were frequent moves, uncertain titles, disputes over tenure, and conflicting authority among leaders from different local and kin groups.

Most of these villages were still partially dependent on emergency rations issued to them while breaking in new gardens. Some of the Jegase people in Awala had their own small pockets of land nearby where they planted emergency crops and foraged; some made excursions during the day into the closed area to collect

A, [See Category 428, p.24--Analyst]

731 361 food from their abandoned gardens which they found in good condition, apart from the uncontrolled growth of weeds.

No doubt minor adjustments in the distribution of land rights were made in the course of resettlement of the land around Sivepe when the people returned after a year's absence. But they would not have been faced with the major problems met with in the crowded resettlement areas with large numbers of immigrants. When the people of old Sivepe-Pamba returned from the evacuation camp they re-established their village on its old site.

613 361 [578] [177] It was not long, however, before the Timumu people became involved in a protracted dispute with members of Kongahambo village (a new resettlement concentration near Sasembata), over garden damage caused by pigs, and in order to avoid more trouble they decided to move further away to build on their land at the present site of Sivepe village. The members of Berekipa and Arehu lineages and of Seho clan remained in the old village until a Patrol Officer asked them to reunite with the Timumu people. Since the Timumu were not keen to move back and since the occupants of the old village agreed with the Patrol Officer's assertion that it was poorly drained, these Jegase and Seho people moved to Sivepe in 1953. They were given permission to build by the Timumu lineage which owned most of the land on the site.

[754] Meanwhile the Bebehupa had returned after the eruption to Binduta where they lived with Usohu people for about 8 years. Then friction between the 2 groups became too great and, following accusations of sorcery, 4 Bebehupa households came to live on pockets of lineage land within the new Sivepe. Their houses are not aligned with those of the Jegase men who arrived earlier but the other 2 clan branches tend to occupy distinct sections of the village.[1]

614 361 (iii) The distribution of other clan branches. One Jegase clan branch lives several miles west of Sivepe in Hururuta village. Another group of Jegase splintered from the local branch of the clan after protracted disputes and settled at Kakendetta near Popondetta. The Sivepe people do not know how they acquired land rights there but insist that they voluntarily relinquished all their original rights. The clan is represented in Kiorota, Nahihita and Isoge; Plant (1951: Appendix 3) also reported that there were members of the clan in Kokitate and Pondohe.

A large branch of the clan now at Suin village is said to have moved down from the slopes onto unoccupied land which lay between

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[1] The houses of parent and 1 son or a married daughter are usually adjacent but those of additional children are often located elsewhere.

614 361 their previous location[1] and the territory of their traditional enemies, the Divinikovari and Togahau, but informants disagreed as to whether this occurred before or after Europeans had established control of the area.

Timumu clan had also originated well to the south near Sasembata (according to its members at Sivepe) but fairly early in the century part of this clan too occupied land around Soroputa nearer the Togahau. Other members of the clan live at Sasembata, Hamburata and Kakita and possibly other villages.

The ancestors of members of Seho clan in Sivepe are said to have moved to the nearby village of Hanimkambari from an area closer to the source of the Sohu River on Mt Lamington. While at Hanimkambari they clashed with the first government patrols in the area. About 1910 some of the Seho people established another village, Asina, nearer the present site of Sivepe, later moving to join Timumu and Jegase groups at Euru. These old villages have now been abandoned but Seho clan is represented in numerous other villages in the area.

c. Localised descent groups

621 Our comments on the clan and village have emphasized that the typical village consists of several groups from different clans. Migrations also have usually been by representatives of particular groups. We now turn to an account of the individual's kinship and affinal relationships within the village. This aspect is best approached with an examination of post-marital residence.

591 (1) Residence. Post-marital residence is ideally patrivirilocal. But where residence is found to conform to the ideal, any reference to this norm should be supplemented by further data on the links between co-resident kin if we are to give an adequate account of the kinship composition of local groups; moreover, adults have a wide choice of residence. In fact, of the 12 householders in our sample, 5 were not living in their father's village, although 1 of these was living with his adoptive father (his mother's second husband who was a member of her natal village); the other 4 were living only with matrilateral or affinal kin, or both in one of these instances.

It is significant that only 1 of the 7 men remaining had established his household in a village to which he was affiliated

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[1] This location may not in fact have been near Sivepe. It may have been Ombisusu (near the pre-contact village of Wasida) which Williams (W.10) says Jegase people abandoned to establish Suin after the arrival of the government. This may have involved a move down the slopes.

613 Overall the land of Berekipa lineage is more fragmented, though less scattered than the holdings of the Bebehupa, which are larger.

From detailed accounts of completed land transfers between the Berekipa and Arehu, whose present holdings are mostly interspersed[1] near the sites of Simbehata and Pusahambo, and from other historical data we infer that this land previously formed far more continuous tracts belonging to descent groups such as these. To a noticeable extent the spatial relations between the shares of the Bebehupa, Berekipa and Arehu in the extended tract of Jegase land marked by the sites of former settlement can be construed as a teritorial correlate of the pattern of each lineage's ancestors' migrations to or from local groups there. The shifts of residence relevant today are remembered in some detail.

e. Land use and mobility

241 Williams (1928:156) advocated a change from shifting to sedentary agriculture for the Orokaiva on the grounds that the former was wasteful of land and labour, and that the tendency to form small independent settlements resulted from the 'lax method of horticulture which necessitates the clearing of many areas in succession and sometimes a temporary settlement on a distant site'. He considered shifting agriculture to be 'one of the most potent causes of village and clan disintegration'.

[361] Keesing (1951:8) noted that the mountain Orokaiva had generally resisted the post-war movement to consolidate into larger villages. So long as the 'mobile economic base' persisted, he considered that resettlement into larger permanent villages after the Mt Lamington eruption would be unlikely to succeed. The Orokaiva showed no inclination to adopt more intensive sedentary cultivation and he predicted that a return to shifting agriculture would involve 'seasonal movement' outward from the environs of the settlements to new cultivation areas, and later the resumption of settlement in scattered hamlets. In view of these assertions about the connection between agricultural practice and settlement patterns, upon which Williams and Keesing based their discussion of economic development, it may be useful to examine the relations in Sivepe between mobility and village stability on the one hand, and traditional land use on the other.

621 [361] [721] Keesing suggests that the tendency, mentioned by Williams, for the Orokaiva to disperse into smaller residential units since pacification had been particularly marked on these heavily populated slopes. The suppression of intertribal feuding probably

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[1] To a lesser extent they are also interspersed with parcels of other lineages' land.

62 facilitated the type of local movements that we noted occurred in
[36] the neighbourhood of Sivepe. However at times[1] the density 'on
the ground' of villages of the standard size found in the other
[72] Orokaiva tribes may be misconstrued as a state of advanced fragmentation of settlement.

It should be noted that the limited amount of relevant detail on the areas where Williams worked[2] fails to indicate a significant difference in size between the Aiga village averaging 26 people at that time, and the Wasida village, with about 6 houses and a single-boys' house.

166 The Sivepe people have moved only singly or in small groups
except when villages have been directed to amalgamate by the
[657] Administration. The villagers say that, except when they were
evacuated to Ilimo refugee camp, they have never been forced to
move from the area which had been held by their ancestors, or to
[614] rely on outside groups for access to land. Our evidence indicates
that, except for limited expansion into unoccupied land early in
the century, all the major shifts of residence of the sample clan
branches have been confined to their own territory.

[425] People who have moved to take up rights in other land have done
so by exploiting personal ties of kinship or affinity. We found
[614] no instances of overlapping land claims at the clan or local
branch level such as are found in other areas of Orokaiva territory
where enough land was available for whole clans to move the location
of their settlement some distance to unused land of a friendly
group.

621 Belshaw (1951:3) observed that in the years preceding the Mt Lamington eruption

> there was much feeling among Government officers that the relatively poor houses of the district, and the small hamlets, should give way to new villages built on the 'Kokoda' pattern, that is a line of substantial houses built around a grassy village square.

[178] The people tended to resist this change, but they had made some
moves to amalgamate 'hamlets' (see p.34). He noted also that
[166] there was much movement between villages, and that it usually
involved a man's leaving his father's land to live on that of his
mother or his wife.

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[1] For instance, when the densely populated area stretching from Isivita to Isoge and Awala villages struck the writer of one generally observant report as 'literally a mass of small hamlets' some of them with no more than 20 members.

[2] See Williams 1930:7; W.1.

166 [342] Individual mobility is still high, as we have already noted. Mobility is facilitated by the fact that material for housing - wange timber framework, blackpalm floor, walls and roof-thatch from sago trees[1] - is usually readily available and houses have an average life of only 4 years.

361 [621] The patrol of 1948 which found this area 'literally a mass of small hamlets' alludes to a possibility that the proliferation of these groups had become conspicuous only 'since the Japanese invasion'.[2] The long-term trend after the 1951 eruption, the next catastrophe to cause displacement of population comparable with the wartime upheaval, was towards effective consolidation instead of the proliferation of small groups, such as the scattering of post-invasion days.

361 178 621 When people began to leave the evacuation camp there was a spontaneous trend, which was encouraged by officials, towards building larger villages or, alternatively, clusters of 'hamlets' within sight of each other (Belshaw 1951:5 ff.).

[177] Plant (1951:6) and Belshaw (1951:6) suggested the following reasons for this tendency: that reconstruction would be easier if large numbers of neighbours co-operated; that the renewed interest in co-operatives led to a desire for larger groups; that the example of Ilimo Camp had given people the notion that larger groupings were correlated in some way with higher standards of living; that the Europeans, whose goodwill was now evident, favoured bigger settlements; and finally that their common disastrous experience had reinforced their sense of unity.

621 Although the present-day villages are smaller than those established at the start of the resettlement before the danger area had again been occupied, they are considerably larger than their counterparts of pre-eruption days: Belshaw (1951:2) says that the population of 'hamlets' in the area was of the order of 20 to 80 and the population of the 'hamlet group' under one name ranged from 150 to 400. At present in the Saiho Census Division the average population of the residential unit, in nearly every instance a nucleated village, can be no less than 175.[3]

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[613] [1] Some informants stated that materials (except sago) could be collected from any village members' land but most claimed they sought wood only from lineage land unless invited to use trees by particular kin from other groups.

[2] This report was probably the major source of Belshaw's and Keesing's information on the pre-eruption situation.

[3] We do not know the average size of a group of villages known by a 'hamlet group' name such as Awala, Waseta, etc.

621 At the time of resettlement these writers drew attention to the possibility that the composite villages would eventually be disrupted either by aggravated friction between members of different clans who had not lived together before or by the unsuitable siting of the settlements with regard to access to the villagers' own gardening lands.

[754] [166] The first problem was solved by individual mobility. Our own experience which is confirmed by the observations of patrol staff is that fear of sorcery, which follows tension within the village, is one important example of the vicissitudes of social relationships which are responsible for much of the movement from one village to another at present.[1] But the problem of the location of gardens in relation to residence was solved in time wherever people moved from the main road or other temporary settlement areas to new sites on or near their old land.

This land use problem was peculiar to the exceptional resettlement conditions and Keesing seems not to have considered this point when he concluded that the formation of larger villages was incompatible with the economic base of shifting agriculture. His prediction that people would continually 'hive off' into hamlets of a dozen houses consistent with their familiar system of seasonal shifting gardens does not seem to have eventuated.

L [166] The scattering of an individual's land interests over a neighbourhood facilitates mobility between adjacent villages because after moving, for whatever reason, he can often continue to exploit rights to those lands which are at a convenient distance from his new village. We found, however, no evidence to suggest that shifts of residence are determined by a continual need to clear new areas for cultivation even if these areas lie scattered near a number of villages.

171 241 361 Residential mobility is not as closely correlated with changes in gardening sites as it is among the Chimbu even though, as Williams says, the Orokaiva move their garden sites frequently. Among the Chimbu, on the other hand, where a long cultivation period usually of at least 4 years, sometimes broken by short fallow periods (when the area of cultivation within the plot is shifted), is followed by long fallow periods of varying length up to about 20 years (Brookfield and Brown 1963:52), 'the principal factor determining residence is land; most men prefer to live near their main blocks of currently cultivated land' (ibid:97).

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[1] Other examples are disputes between kin, and life-crises. About 1956 the oldest Bebehupa man left Binduta to spend his last years at Hahihita, an area to which he has been emotionally attached for much of his life. One or 2 close kin went to look after him and a series of other Bebehupa have followed.

241 171 361 With the passage of the cultivation cycle over a Chimbu subclan's territory, gardeners move from one men's house to another, either as a persisting group of agnates working contiguous holdings, or as individuals joining more transient groups which are dissolved as gardens near the house revert to fallow (ibid:98; Brown and Brookfield 1959:68). As they extended their cultivation to other areas, 37 per cent of a sample of 193 men had moved from one men's house to another over a period of 16 months (Brookfield and Brown 1963:98) and the men's houses themselves last no longer than 5 years (ibid:12).

241 In Sivepe on the other hand, gardens tend to be scattered and isolated. Father and son often have adjacent plots in one garden area but the son usually has at least 1 other garden elsewhere. A young married man often has 1 garden on the land of his wife's father, whom he will periodically assist in his garden. Older men in general adopt the technique of progressively planting and clearing a single large area while younger and more active men, usually with more obligations to affines, tend to cultivate several scattered smaller plots.

[621] [602] There is no local group or extended kinship group which commonly combines to make a block of contiguous gardens. Even when all members of the village plant simultaneously for a special feast, the gardens are not adjacent. A man usually takes advantage of the choice of exercising planting rights on the land of a wide range of kinsmen (not necessarily his agnates), both those within the village and to a lesser extent kinsmen from other villages. Several had current gardens on their mother's brother's land, some on the nearby land of their wife's brother, sister's husband or daughter's husband.

613 614 184 In other Orokaiva areas (such as Inonda) gardeners of one lineage often have a reciprocal arrangement with another lineage of the same clan in the village to cultivate a parcel of their land with them, but this is not a common practice at Sivepe. In the few cases where several kinsmen have made adjacent gardens the gardeners are mostly cognatic kin from different clans or villages and each will probably make his next garden with different kin or on an isolated parcel.

166 171 425 Encroachment on boundaries is feared[1] but does not seem to result in repeated changes of residence as it does among the

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[578] [1] The 3 instances of boundary disputes recorded were between Bebehupa and Usohu people. According to the older men the Usohu were formerly a Jegase group and they share many boundaries with the Bebehupa; the recent split in Binduta between the 2 groups has been accompanied by friction over a number of issues including the definition of boundaries.

Chapter 5

The land and economic development

433 a. Shifting cultivation and residential stability

Under the present system of horticulture the amount of land surplus to current subsistence needs is small and imposes limits to expansion of commercial agriculture.

Williams (1928:154) regards the system of subsistence cultivation as wasteful because it requires such a large area per person. However, the practice of shifting gardens frequently and for short periods on scattered plots does give maximum yields and maintains soil fertility. Brookfield and Brown (1963:166) point out that no successful alternative to land rotation has yet been proven for subsistence agriculture in the tropics. Population pressure and soil fertility are not sufficiently serious problems on the slopes of Mt Lamington to warrant the measures which Fisk (1962) recommends in other circumstances.

[361] Keesing (see Chapter 3, Section e) argued that the rotation of land adversely affected social stability. But the settlement pattern which developed after the emergency shows that there is no necessary connection between dispersed settlement and either the local population density or the method of bush fallow rotation. [166] Some very large villages formed after the eruption (e.g., Soroputa and Kiorota) retained large groups of immigrants who owned no gardening lands near at hand. The present high rate of mobility between other villages, most of which are much larger than before, is not closely correlated with the shifting of garden sites. Among the Chimbu, by contrast, land use is more intensive, but frequent shifts of residence between scattered hamlets are related mainly to gardening needs.

178 361 166 241 With the introduction of cash cropping the Chimbu pattern of settlement is becoming more permanent (Brookfield and Brown 1963:98). There is little significant evidence either to support or oppose our belief that the planting of individual coffee plots since the mid-1950s has not been associated with a drop in

178 361 166 241 individual mobility among the mountain Orokaiva. We especially doubt the generalisation that the introduction of tree crops induces the fragmentation of villages into small 'bush settlements' which many observers thought would be established on the site of the gardens. When Agriculture staff first advocated individual cash-cropping among the Orokaiva, the policy was opposed by mission staff who feared that the villages would disintegrate as each grower moved to live near his coffee garden.

This has not in fact eventuated although there has been some movement from large temporary post-eruption settlements like the Isivita villages when immigrants returned to their own land to plant coffee or cocoa.

425 b. Developments related to land tenure

Disparities between the areas in which individuals and groups held proprietary rights are overcome by individuals acquiring rights to other land through interpersonal relationships. Cash cropping by individuals does not seem to have reduced the flexibility of exchanges and transmission of land rights. Three of the 5 persons who planted coffee on land held by members of our sample are not members of the group holding proprietary rights. Similarly, of 28 people who applied to the local government council for registered areas of cash crop land on 7 blocks held by the sample, 8 were not members of the rightholding group.[1]

[654] The need for such transfers is increased by requests from extension officers and the council to locate coffee gardens contiguously to facilitate pest control, extension services and surveying.

[241] [178] [177] Norton (1962:12) argues that new practices in the transmission of land rights have emerged with the expansion of coffee growing since 1956. Our evidence, however, shows that the significant change has been rather the introduction of a new method of cash cropping. The only experience the Orokaiva had of commercial agriculture previously was of large-scale production on plantations owned or directed by Europeans. They had not entertained the possibility of production on an individual basis.[2]

423 614 Norton expresses a view widely held among government officers[3] that the introduction of perennial crops is seen by members of the

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[1] Four of the other 20 applications were made on behalf of members absent in employment and 2 on behalf of boys.

[2] See Crocombe 1964:30.

[3] See Minutes of Higatura Native Local Government Council Meetings.

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311
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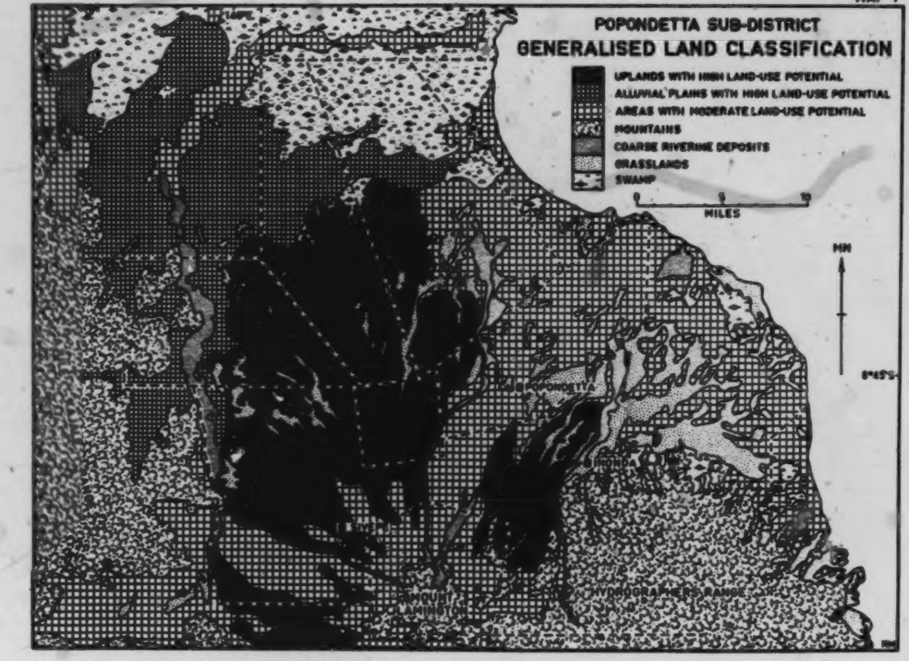
MAP 1

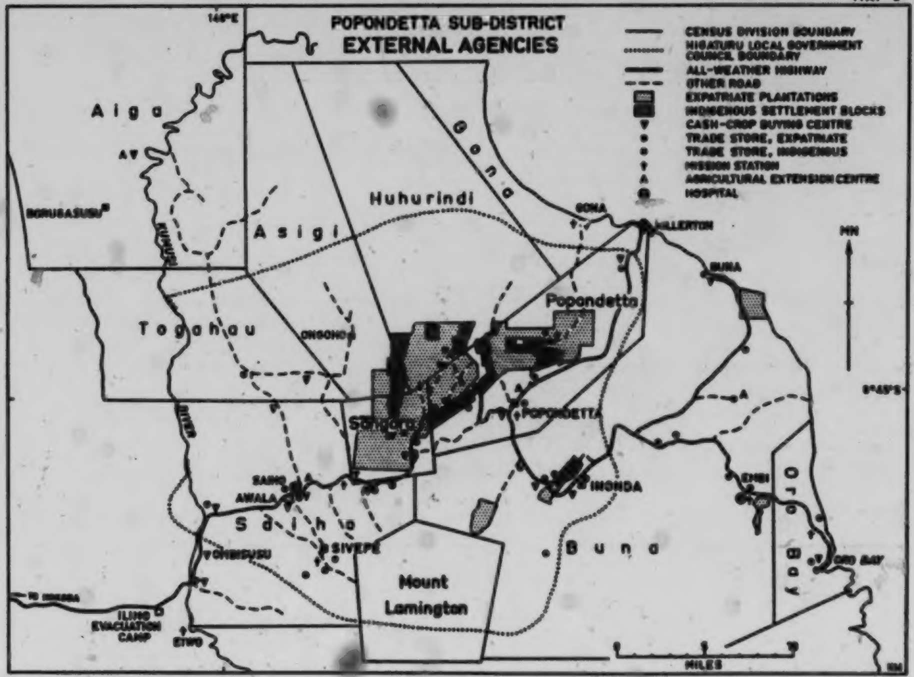


POPONDETTA SUB-DISTRICT
GENERALISED LAND CLASSIFICATION

UPLANDS WITH HIGH LAND-USE POTENTIAL
ALLUVIAL PLAINS WITH HIGH LAND-USE POTENTIAL
AREAS WITH MODERATE LAND-USE POTENTIAL
MOUNTAINS
COARSE RIVERINE DEPOSITS
GRASSLANDS
SWAMP
0
5
10
MILES
MN
8°45'S
148°E
POPONDETTA
INONDA
MOUNT LAMINGTON
HYDROGRAPHERS RANGE

102
361
491
133
131

MAP 2


POPONDETTA SUB-DISTRICT
EXTERNAL AGENCIES
CENSUS DIVISION BOUNDARY
HIGATURU LOCAL GOVERNMENT COUNCIL BOUNDARY
ALL-WEATHER HIGHWAY
OTHER ROAD
EXPATRIATE PLANTATIONS
INDIGENOUS SETTLEMENT BLOCKS
CASH-CROP BUYING CENTRE
TRADE STORE, EXPATRIATE
TRADE STORE, INDIGENOUS
MISSION STATION
AGRICULTURAL EXTENSION CENTRE
HOSPITAL
148°E
Aiga
Asigi
Huhurindi
Gona
Togahau
Popondetta
Sohoro
Saiho
Mount Lamington
Buna
Oro Bay
BORUGASUSU
KUMUSI
RIVER
ONGOHO
GONA
KILLERTON
BUNA
POPONDETTA
INONDA
EMBI
ORO BAY
SAIHO
AWALA
SIVEPE
TOHBISUSU
TO KOKODA
ILIMO EVACUATION CAMP
ETWO
MN
8°45'S
MILES

161 [184] [361] [131]

The Orokaiva comprise a number of groups, with mutually intelligible dialects and a high degree of cultural uniformity, extending some sixty miles northwards from the Hydrographers Range and from the coast inland to the foothills of the Owen Stanleys. The overall population density is only 9.1 persons per square mile but the distribution is highly uneven (see Table 1.3) with major concentrations on the fertile northern slopes of Mt Lamington (63.8 persons per square miles in the Saiho census division) and the coastal periphery (62.2 in Gona census division). The grassland and more northerly forest areas are only sparsely populated.

162 621

Table 1:3

Popondetta sub-district: demographic characteristics of selected census divisions, 1963

	Crude population density (persons per square mile)	Cultivable acres per head	Mean size of settlement
Saiho	63.8	9	216
Gona	62.2	6	221
Oro Bay	43.6	9	103
Sangara	26.7	9	197
Popondetta	17.2	19	109
Togahau	16.9	25	146
Asigi	9.1	53	87
Buna	8.4	31	94
Huhurindi	6.7	53	69

Source: Population data derived from DDA 1963 census data (1961 Popondetta, 1962 Saiho).

621 361

Small villages are the characteristic unit of settlement, with houses disposed in a more or less rectangular form around a central earth or grass 'square'. Their size varies in relation to overall population density, but nowhere exceeds 720 persons,[1] the mean being 144 persons. The social organisation and economy of the Orokaiva contribute to considerable instability in settlements, both in composition and site.

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A village normally contains more than one clan branch[2] and consequently is not necessarily a landholding unit. Its members may have closer ties of kinship with residents of other villages than

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[1] Kiorota village in Saiho census division.

[2] See p.10.

794 not necessarily leaders in the old authority structure but often
177 people with particular experience of white rule (e.g., policemen).[1]
Both cults were suppressed by the Administration although the Taro
178 cult persisted until 1928 and possibly reappeared in the Gona-Buna
area in 1941 (Worsley 1957:124), concurrent with rumours of imminent
Japanese landings.

178 The ending of inter-tribal skirmishing, which directly affected
the social roles of the sexes, also extended the physical range of
657 interactions open to individuals and resulted in the proliferation
of hamlet groups, comprising single clan-branches, i.e. a fragmenta-
361 tion of the main villages. Administrative efforts in this period
[721] were directed towards countering this latter process and concentrat-
ing settlements along the roads to facilitate supervision, encouraging
improved building styles (particularly the erection of houses on
stilts above the ground) and establishing more ordered 'line'
villages built around a central square.

(b) Commencement of cash cropping

241 From its beginnings the mainstay of government policy was the
[657] encouragement of indigenous cash cropping. Regulations introduced
in 1894 and 1903 provided for compulsory plantings of economic
trees, particularly coconuts, rubber and citrus, but few were exploited commercially. Under the Native Plantations Ordinance 1918 and the Native Plantations Ordinances 1925-32, twenty-six community plantations were established in the Orokaiva area with both government and villagers participating.[2] Cocoa, coffee, oil palm, cotton,
[466] tobacco and rice were all tried; however, owing to a fall in prices,
all but coffee were abandoned. According to Crocombe (1964:16),
[434] there was no enthusiasm among the people for the scheme as they
considered the cash returns inadequate: each man was required to
work sixty full days per year and returns varied from less than $1 to $8 per year, which was well below the returns from working on European plantations at that time. Some 10,000 trees, predominantly coconut, were planted in 1914-15 in the Orokaiva area and by 1921 it was estimated that there were 46,404 coconut trees in the Northern
[433] Division and some 7,000 rubber trees (mostly in the Awala area).
The planting of coffee commenced in 1923 and by 1936 there were

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[1] Such a development may well also have been characterised by the building up of more extensive group solidarities. Burridge (1960:25) does suggest, however, that the Taro cult may have been a particular expression of a similar type of cult occurring in the pre-contact era.

[2] Proceeds deriving from the sale of the crops were shared on a 50-50 basis. For a detailed treatment of these communal plantings see Crocombe 1964.

Chapter 3

The village economy

433 This chapter describes briefly the Orokaiva pattern of produc-
tion and distribution, with particular reference to Sivepe and
[128] Inonda.[1] Traditionally the villager operated within quite narrowly
circumscribed physical limits. Each community functioned largely
as an independent subsistence unit, almost all the requirements of
life being produced through shifting agriculture and the subsidiary
[251] pursuits of fishing, hunting and foraging on its own land. Produc-
tion was directed almost entirely to immediate and direct consumption,
[438] none of the staple foodstuffs except yams lending themselves to
storage; exchange was confined largely to kindred within the com-
munity or in closely neighbouring communities. Beyond this, minor
and informal trade links had developed between some of the inland
and coastal peoples, but the degree of inter-dependence established
can be considered insignificant.

[438] The contemporary economy comprises both subsistence and monetary
sectors, with the former dominating. Most money traffic is with
the non-agricultural sector of the national economy and there is
little movement of money between subsistence units.

244 (a) The subsistence sector

(i) Production. The pattern of subsistence production is, as yet, little modified by cash cropping, in spite of the latter being based on permanent tree crops which involve substantially different agricultural practices.

Gardens are made in secondary growth where the forest has re-
generated over a fallow period of about ten years. Little primary
forest survives among the Mt Lamington Orokaiva and, even where it
does, secondary growth is preferred for gardening as it is easier
[361] to clear. In addition to the shifts in garden locations, many
settlements also change sites at frequent intervals, the cycle
[184] appearing to be a little longer than the cultivation cycle. All

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[1] More detailed descriptions are given in Crocombe and Hogbin 1963:7-13, Dakeyne 1965:54-92 and Rimoldi 1966:13-28.

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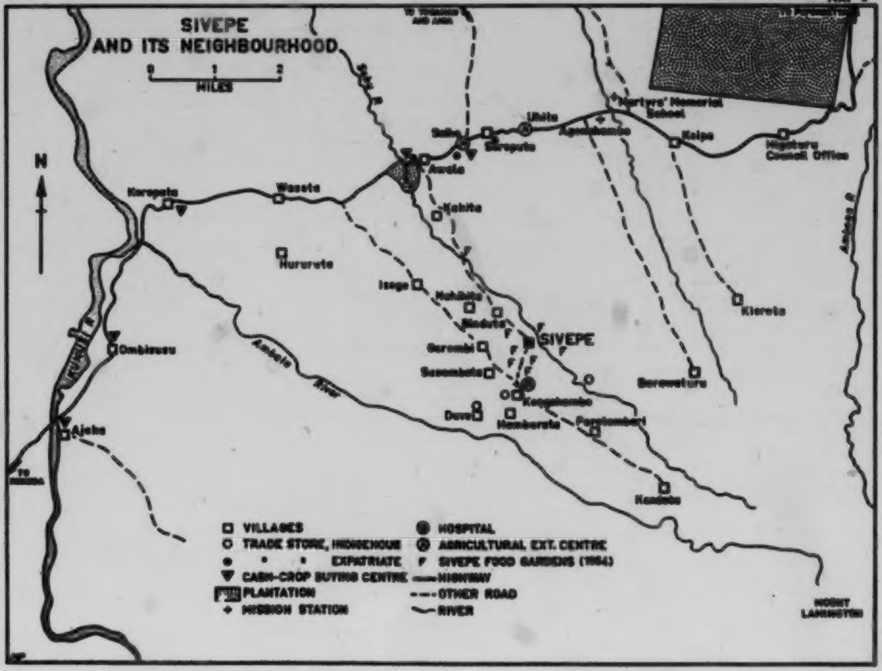
MAP 3


SIVEPE
AND ITS NEIGHBOURHOOD
0
1
2
MILES
N
Koropata
Waseta
Hururuta
Isage
Saiho
Awala
Kokita
Uhila
Agenehambo
"Martyrs' Memorial School"
Kaipa
Higaturu
Council Office
Kiorota
SIVEPE
Gorombi
Sasembata
Duve
Hamberata
Sorovatura
Kendata
Ombisusu
Ajeka
Ambele River
Kumusi R.
Ambogo R.
MOUNT LAMINGTON
VILLAGES
TRADE STORE, INDIGENOUS
" " EXPATRIATE
CASH-CROP BUYING CENTRE
PLANTATION
MISSION STATION
HOSPITAL
AGRICULTURAL EXT. CENTRE
SIVEPE FOOD GARDENS (1964)
HIGHWAY
OTHER ROAD
RIVER

Chapter 4

The two communities: Sivepe and Inonda

184 The villages of Sivepe and Inonda represent the extremes of population density, and therefore land availability, in the sub-district. There are significant differences between them in resources and in the degree and character of their participation in the monetary economy and their interactions with the principal external agencies.

Sivepe

133 Sivepe is situated 1,300 feet above sea level on the lower north-
[134] western slopes of Mt Lamington. Its land is classified by the CSIRO
survey (1964:32) as belonging to the Awala Land System and is
characterised by fertile loam topsoils and a close-textured drainage
137 system. The vegetation comprises predominantly secondary forest
and various stages of regrowth, with little grassland. The land-
311 use potential is regarded as high and the fertile, well-drained
soils are best suited for perennial (tree) crops.

361 The village is located in the most densely settled part of the
sub-district, the Saiho census division, and there are eighteen
villages within a radius of three miles (see Map 3). It has been
on its present site for about ten years, but preparation of a new
[131] site, less than one mile away, was commenced late in 1964. Sivepe
is twenty-eight miles from Popondetta by road, the last three miles
being a little-used jeep track linking Awala with the villages on
the lower slopes of Mt Lamington. Consequently, coffee and rubber
have to be carried to Awala (or nearby Saiho) to be sold and pur-
chases are normally made in the trade stores there. At Awala are
a European rubber plantation, a rubber factory which purchases
village latex and a well-stocked trade store. At Saiho are two
trade stores, the principal Administration hospital for the Northern
District (where medical orderlies ahd infant welfare nurses are
trained) and a primary 'T' school. In mid-1964 a daily bus service
was established between Saiho and Popondetta.

491 Also, in mid-1964, several villages voluntarily commenced the
[499] construction of a new all-weather road, linking Sasembata mission

[TEXT CONTINUED ON PAGE 37]

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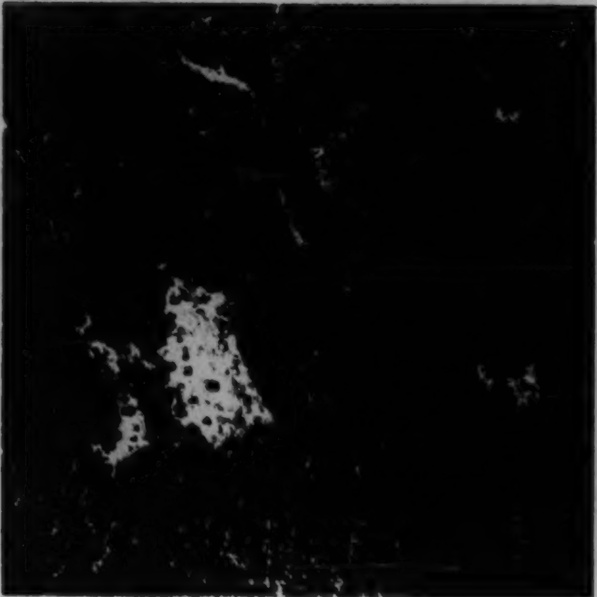

Plate 1. Sivepe - a 'line' village located in a forest clearing adjacent to the Sohu river and a minor vehicular road linking Sasembata and Awala. (Vertical photograph, scale 1:2,200.)

491 [499] [361] station with Boru on the main road near Awala and passing within a mile of Sivepe, but it was not completed by the onset of the wet season. It was intended that this would be used by the OCGS and other purchasers of produce. This was the main reason for the Sivepe people's decision to move their village to a site within 200 yards of Sasembata mission station.

797 [743] [871] Sasembata mission is a head station of the Anglican mission. Among its facilities are a church, administered by an Orokaiva priest, a hospital and infant welfare clinic run by a Papuan medical orderly but supervised from the Administration hospital at Saiho, and a primary school with 400 children on the roll.[1] The school includes classes up to Standard V and is headed by an Australian with the assistance of ten Papuan teachers. A small trade store is operated by Oro Ltd at Kongohambo village adjoining the mission station.

621 [342] Sivepe itself is laid out as a line village, with lineage members tending to occupy adjoining houses (see Map 4). The houses have a mean size of 229 sq ft and are built entirely of local materials, with the exception of nails which are now commonly used.

[125] Three clan branches are represented in the village and two of these, the Jegase and Timumu clans,[2] comprised the survey sample (55.3 per cent of the total village population of 114 in January 1964), the characteristics of which reveal them to be representative of the population as a whole.[3]

166 464 The population of the sample declined by 20.6 per cent, from 63 to 50 persons, over the survey period. Ten of the 17 departures migrated to other villages and the rest sought wage employment within the district or in Port Moresby. This continuing out-migration intensified certain characteristics of the village's labour force, for by January 1965, 37.8 per cent of the potential adult male labour force was absent, the majority on a long-term basis in unskilled or semi-skilled work or low-ranking positions in government service.[4] In three cases, wives and children remained in the village and were supported by close kin. In January 1965, there were only two men remaining in the 20 to 34 years age groups.

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[1] An estimated 80 per cent of the children in the area receive some schooling.

[361] [2] Clansmen also reside in twelve other villages, all within a radius of 3.7 miles of Sivepe.

[3] See Appendix 1A and Fig. 4:1.B [4] See Appendix 2.C

A, [See Category 163, p. 307--Analyst] B, [See Category 162, p. 39--Analyst]

C, [See Category 166, p. 308--Analyst]

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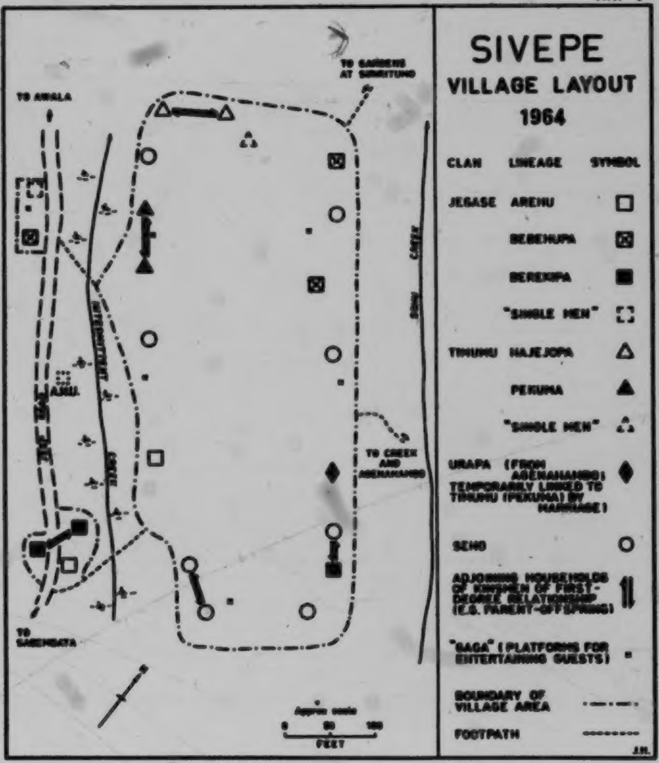
MAP 4


SIVEPE
VILLAGE LAYOUT
1964
CLAN
LINEAGE
SYMBOL
JEGASE
AREHU
BEBEHUPA
BEREKIPA
"SINGLE MEN"
TIHUNU
HAJEJOPA
PEKUMA
"SINGLE MEN"
URAPA (FROM AGENAHAMBO) TEMPORARILY LINKED TO TIHUNU (PEKUMA) BY MARRIAGE)
SEHO
ADJOINING HOUSEHOLDS OF KINSMEN OF FIRST-DEGREE RELATIONSHIP (E.G. PARENT-OFFSPRING)
"SAGA" (PLATFORMS FOR ENTERTAINING GUESTS)
BOUNDARY OF VILLAGE AREA
FOOTPATH
J.H.
TO AWALA
TO GARDENS AT SIRRITUNG
TO CREEK AND AGENAHAMBO
TO SAKENDATA
AJIU.
INTERMITTENT CREEK
CREEK
Approx scale
0
50
100
FEET

241 245 [578] man-hours, to be a costly failure.[1] During February and March 1964, some 361 man-hours were spent in cleaning the garden preparatory to planting. The major task of clearing the area had been done the previous year. The immediate cause of the scheme's failure was friction between villagers over the crops to be planted in the garden - the councillor insisted on coffee, cocoa and rubber, while most of the others favoured coffee only. Regardless of this aspect, the episode illustrates some of the problems of communication between the external agencies and the indigenous people.

361 Preparations in the latter part of 1964 to move the village to the new site were precipitated in part by the belief that, if located near the end of the new and improved access road (the jeep road from Awala running through Sivepe having fallen into disuse during 1964), the sale of their produce would be made more easy.[2] However, because of the uncertainty surrounding the move, several households had by the end of the year stated their intention of remaining in the existing village.

241 The complexity of the cash cropping situation in Sivepe precludes drawing a clear distinction between cash croppers and non-cash croppers. As Table 4:4 shows, there are various forms and degrees of involvement in commercial agriculture and every household participates in some way. Distinctions drawn on the basis of individual holdings can be most misleading. For example, the head of household 15 is an active cash cropper, although he has no commercial [887] trees of his own, whereas another man, with 77 coffee trees, did not work them at all during 1964. While older people tend merely to assist primary kin and appear to receive little direct payment, others are involved in various ways.

(d) Monetary assets

434 Individual holdings of money and other property reflect the use of past income and illustrate the extent of investment and changes in material culture.

[454] The monetary assets of 11 households at the end of the survey amounted to $208.60 (see Table 4:5), 26.9 per cent ($56.10) in cash

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[1] It is assumed that communal clearing and subsequent subdivision into individual holdings had been recommended. In the Sivepe case, the councillor had apparently failed to grasp that subdivision should follow clearing. Two householders claim to have been prevented from establishing individual coffee plantings by him because of this misunderstanding.

[2] See pp.34 and 37.A According to a local planter, the Army Engineers (engaged at the time on public works in the Northern District) promised to provide a weekly truck to Popondetta market if the people built a new road.

[TEXT CONTINUED ON PAGE 47]

A,[See Category 491, pp. 34-37--Analyst]

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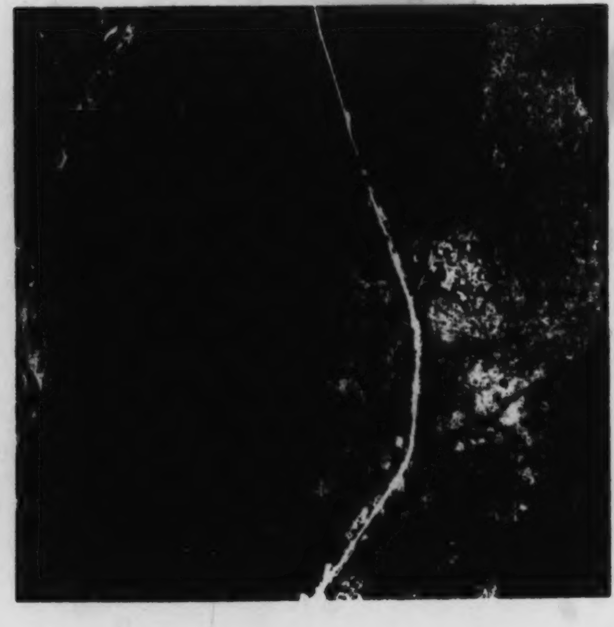

Plate 2. Inonda - the new village situated close to the grassland/forest boundary. The main Popondetta-Oro Bay road runs between the village and the Girua river.
(Vertical photograph, scale 1:4,200.)

● 361 Inonda lies in Buna census division, the most sparsely settled part of the Popondetta sub-district (with the exception of Huhurundi). Apart from an ex-servicemen's settlement block, there are only four villages within a three mile radius of both village sites (see Map 5). At the beginning of the survey, Inonda was on a site it had occupied since 1956, but during 1964 it was rebuilt about a mile to the south-west, still on the forest-grassland border.

491 The village is about ten miles from Popondetta, to which it is
linked by a good all-weather road. About three miles towards
[368] Popondetta, west of the Girua River, is Hohota village and its off-shoot
settlement, Ijika, where there is a local government council
[131] aid post, a church and attached primary school (with classes to
standard III), and a trade store. Running north-east from the main
road parallel to the Girua River is a line of ex-servicemen's settlement
blocks - one expatriate - and eleven Papuan-owned, one of them
by a former resident of Inonda and several others from nearby
[366] villages. There are five trade stores on or near the blocks, two
[368] of them expatriate-owned, and a new Administration school. This
latter is not used by the Inonda people, although they believe it
[133] to be a higher standard than the mission school. Eastwards from
Inonda, the road runs through sparsely-populated grass plains to
[508] the coast at Oro Bay. Late in 1964 the Popondetta airstrip was
closed and a wartime tarmac strip two miles east of the village was
[494] reopened to serve the township, with a consequent increase in traffic
along the main road.

MAP 5

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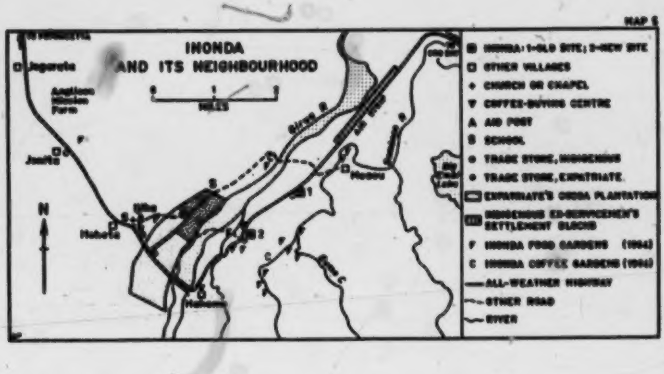
INONDA
AND ITS NEIGHBOURHOOD
0 1 2
MILES
N
Jegarata
Anglican Mission Farm
Hohota
Girua R.
ORO BAY
INONDA: 1-OLD SITE; 2-NEW SITE
OTHER VILLAGES
CHURCH OR CHAPEL
COFFEE-BUYING CENTRE
AID POST
SCHOOL
TRADE STORE, INDIGENOUS
TRADE STORE, EXPATRIATE
EXPATRIATE'S COCOA PLANTATION
INDIGENOUS EX-SERVICEMEN'S SETTLEMENT BLOCKS
INONDA FOOD GARDENS (1964)
INONDA COFFEE GARDENS (1964)
ALL-WEATHER HIGHWAY
OTHER ROAD
RIVER

361 [621] [342] Like Sivepe, both sites of Inonda were laid out as line villages. Here the tendency for grouping of kin is more marked but still not rigid (see Map 6). The houses, with a mean size of 282 sq ft, are built largely of local materials, but incorporate some exotic items including nails, and, in certain cases, corrugated iron roofing from nearby wartime dumps. In addition to the residences, there is a rest-house, a copra-drier, a small trade store and a chapel. Brief weekly services are held by a villager who was once a mission teacher and who also owns the store.

162 In January 1964, the resident population of the village was 35, with 16 adults, a drop of seven since the time of Crocombe and Hogbin's survey (1963:38). The nine households had an average of 3.9 individuals or 1.8 labour units. No births or deaths occurred during the survey but there were three arrivals and seven departures giving a total of 31 people, including 16 adults, in January 1965. 166 In addition, several people from other villages stayed temporarily with kinsmen in Inonda. At first, there were two local clan branches in Inonda, the Andirihaha and the Jego'undi, the latter being represented by a single family.[1] When the village moved in 1964 the Jego'undi man, having virtually no rights to land near the new site, decided to move instead to the nearby village of Mosou, which is built on his land. He, his wife and four daughters were from this point (July 1964) excluded from the daily interviews, which explains the most prominent change, namely the loss of female children, in the age-sex structure diagram (Fig.4:2).A In contrast with Fig. 4:1 for Sivepe,B Fig.4:2 shows neither males nor females in the 15 to 19 years age group; the largest concentration of adult males is in the 20 to 24 years group, where Sivepe has none. The proportion of long-term absentee adult males was 16.6 per cent in January 1964 (i.e. two out of twelve) and 25 per cent in 1965, the rise being due to the departure of the Jego'undi man. One absentee is normally resident in Port Moresby and seems unlikely to return except on retirement; the other, his brother, lives less than three miles from Inonda at Ijika near Hohota, which is his widowed mother's village, and he constantly asserts his intention to return to Inonda.[2]

621 The major agnatic links of the Andirihaha people are with Hohota, but extend to Kakandetta and Hanakiro, ten miles away, while

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[1] A third local clan branch, the Horemba'undi, is represented in Inonda by a single household, which is resident through affinal ties and it has no right to Inonda lands, although it is allowed to make food gardens there.

[2] i.e. two of the three 'absentees' continue to reside in subsistence villages, unlike the Sivepe absentees who are all in, or seeking, full-time wage employment elsewhere.

[TEXT CONTINUED ON PAGE 55]

A,[See Category 162, p.58--Analyst] B,[See Category 162, p. 39--Analyst]

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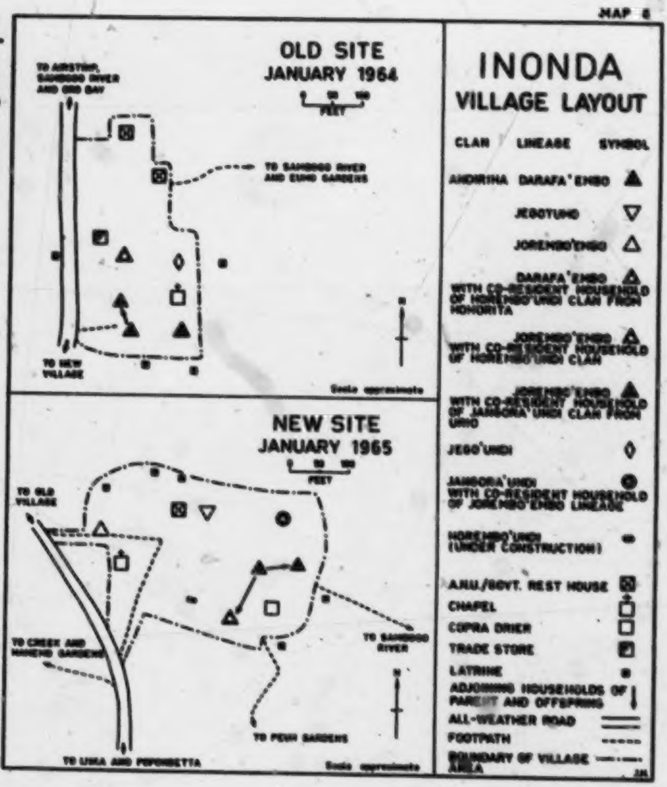
MAP 6


OLD SITE
JANUARY 1964
0 50 100
FEET
TO AIRSTRIP, SANGGOO RIVER AND ORO BAY
TO SANGGOO RIVER AND EUMO GARDENS
TO NEW VILLAGE
Scale approximate
NEW SITE
JANUARY 1965
0 50 100
FEET
TO OLD VILLAGE
TO CREEK AND HANEHO GARDENS
TO SANGGOO RIVER
TO PEHM GARDENS
TO LUMA AND POPONDETTA
Scale approximate
INONDA
VILLAGE LAYOUT
CLAN
LINEAGE
SYMBOL
ANDIRIHA
DARAFA'EMBO ▲
JEGOTUMO ▽
JORENBO'EMBO △
DARAFA'EMBO WITH CO-RESIDENT HOUSEHOLD OF HOREMBO'UNDI CLAN FROM HOHORITA
JORENBO'EMBO WITH CO-RESIDENT HOUSEHOLD OF HOREMBO'UNDI CLAN
JORENBO'EMBO WITH CO-RESIDENT HOUSEHOLD OF JAMBORA'UNDI CLAN FROM UNDO
JEGO'UNDI ◊
JAMBORA'UNDI WITH CO-RESIDENT HOUSEHOLD OF JORENBO'EMBO LINEAGE ◉
HOREMBO'UNDI (UNDER CONSTRUCTION) ▬
A.N.U./GOVT. REST HOUSE ⊠
CHAPEL
COPRA DRIER □
TRADE STORE
LATRINE ■
ADJOINING HOUSEHOLDS OF PARENT AND OFFSPRING
ALL-WEATHER ROAD
FOOTPATH
BOUNDARY OF VILLAGE AREA

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461
(ii) The daily routine and duration of activities. As suggested above, both the duration of an individual activity and the time at which it occurs within a given day may have some bearing on the broader patterns of activity. Williams (1930:21-31) describes an individual as characteristically undertaking several tasks within a single day, garden work normally being completed by midday. Table 6:10 reveals the need for modifying this view. The mid-point of most activities falls within the 1100 to 1400 period, and of the 19 extra-village subsistence tasks 15 have a mid-point falling after 1200. The tendency is to leave for the gardens in early or mid-morning, returning to the village in mid-afternoon. In garden work several tasks are normally carried out during a single visit, food being harvested last.

Of the 13 activities with a mean duration exceeding 5.0 hours only 4 - clearing, planting yams, sago-making and mourning - are associated with the subsistence sector. Of the others, 6 concern the marketing of crops, both subsistence and cash, and 1 is paid work. The subsistence tasks occur infrequently while the cash-producing ones are a regular feature of a commercial economy. While the total time devoted to cash-producing activities in Sivepe is small, it would appear disproportionately disruptive of a subsistence routine characterised by the daily pursuit of a large number of tasks of short duration. Significantly, in terms of total time expended, the two most burdensome cash cropping tasks are processing coffee and harvesting rubber. The mid-point of both these occurs early in the morning (0941 and 0838 respectively) and since the activities are of short duration the intention is apparently to complete them before starting the daily subsistence routine.

While the time devoted to cash-producing activities, both in total and proportionately, is slight, the characteristics of their occurrence and duration suggest that areas of potential or actual 'stress' may already exist in terms of the juxtaposition of subsistence and external sectors at this basic level of work organisation.

The allocation of time within individual activities

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[481]
[482]
In a community practising shifting cultivation, where all movement is by foot and all goods are carried on the back, travelling comprises a major component of activity time, therefore significantly affecting the level of productivity. This fact is clearly recognised by the Orokaiva and partially explains village movements. With increasing commercialisation of the economy, the problem of the journey to work becomes more serious on account of the greater volume of goods being handled and increased level of activity.

[491]
[361]
One of the stated aims behind Sivepe's projected move was to be sited on an improved road being built to Sasembata in order that

[TEXT CONTINUED ON PAGE 110]

484 [491] [361] produce could be sold directly to buyers at the village.[1] Nothing in Table 6:11 suggests that this move is related to the changing location of gardening activities since the percentage time spent on travelling in connection with clearing activities is actually less than that in connection with subsistence gardening.

Table 6:11

Sivepe: time spent on travelling as a percentage of total time spent on grouped activities

	Percentage of total time	Hours per man-week
Clearing	10.5	0.4
Subsistence gardening	18.6	2.5
Other subsistence food production	14.0	0.4
Other subsistence activities	10.1	0.2
Cash cropping	8.3	0.1
Paid work	15.0	0.2
Household	4.4	0.2
Social obligations	36.7	1.2
Sickness	23.9	0.2
External agencies	22.1	1.3
Other	40.7	0.3
Total	18.2	7.4
Corrected total*	15.0	6.1

* Accounting for several activities being undertaken in the course of a single return journey, and for journeys modified by travel in the researcher's vehicle.

361 In the one case of land tenure conversion among the Orokaiva for which information is available, it is interesting to note that the main benefit of conversion, as seen by the participants, lies in the

> consolidation of previously scattered holdings.... Under the traditional system a man may have had rights to several separate pieces of land often considerable distance from each other. As a result much time was spent in walking from

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[361] [824] [825] [1] Other reasons given for the move included, firstly, that the new village would be an amalgamation of four existing ones and this enlarged size would permit the construction of 'better' houses and facilities, and, secondly, the village itself would be a better place because bananas, coconuts, dogs and pigs (all of which are 'no good') would not be permitted in it.

> 361 village to food gardens and to cash crops. An individual had only a small amount of land on each plot, preventing large-scale planting in one area. Since conversion each man's scattered holdings have been brought together into one large easily accessible block. (Morawetz 1967:18)

361 484 In Sivepe, travelling to and from the point of work accounts for 18.2 per cent of activity time.[1] Household tasks, being mostly sedentary, involve little travelling. These apart, the lowest proportion of time consumed in travelling is for cash cropping - only 8.3 per cent. Since coffee and rubber are permanent tree crops every effort is made to establish such holdings close to the village, and extensive planting may result in the stabilisation of settlement. However, because the cultivation system associated with subsistence crops is entirely different from that associated with the cash crops, any periodic need to relocate the village in relation to areas currently being exploited for food gardens can easily negate initial economies relating to the journey to work. Rimoldi (1966:41) states:

> In about 50 years preceding the establishment of their present village the groups now represented in Sivepe had between them been involved in shifts of residence between a series of 14 village sites within an area of about 2 square miles adjoining the Sohu River. Informants claimed that they or their ancestors moved from 11 of these under instructions from government officers to amalgamate into larger units.

Whatever the real reasons for such moves, the effect on cash crop holdings is clear. The proposed move of Sivepe to a new site will double, at least, the time spent in travelling to these gardens.

484 Even other subsistence activities, which are essentially village based, require 10.1 per cent of total time in travelling to and gathering the raw materials. However, miscellaneous activities apart, social obligations involve the highest proportion of time being spent in travelling - 36.7 per cent. The wide scattering of clans into a number of branches and the pattern of patrivirilocal residence largely account for the distances travelled in connection with social activities, although the scale of movement has undoubtedly increased following contact through kinsmen employed by the external agencies active in the District and others with settlement blocks at

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[1] While the corrected figure of 15 per cent shown in Table 6:11 reflects the actual time spent travelling during the course of the survey, 18.2 per cent is a more normal figure on account of the journeys made in the researcher's vehicle during the survey. The high figure of 40.7 per cent for other activities largely reflects missions undertaken specifically at the researcher's request, but in terms of actual time these are of little significance.

433 179 attempts are being made to expand and diversify cash cropping by planting more coffee and erecting a communal copra-drier in Inonda and establishing a communal garden in Sivepe. However, in all of them, serious problems have arisen or the venture has actually been abandoned. These facts point to a certain lack of direction and perception of the most appropriate techniques in the development of commercial agriculture.

(b) The relationship of subsistence to the external sector and the availability of surplus labour

433 178 Perhaps the most significant general conclusion to emerge from this survey of activity patterns is that the Orokaiva economy continues to be essentially tradition-oriented. Such monetary activities as exist seem to be additional to, and do not replace, subsistence activities. Although the two villages have, since contact, been incorporated into a wider system, individual participation in it remains essentially passive. There is now a real need for money, and for the products that money can buy, and commercial production within the village is perceived as one way of satisfying these needs. Because of the people's familiarity with cash cropping, and of the under-utilisation of available labour, it is not easy to see why it should not have been more extensively adopted.

There is plenty of evidence that the villages continue to be tradition-oriented. In particular, there is little suggestion of 'a reduction in the acreage under subsistence crops, a narrowing of the normal range of good crops and changes in their relative importance' or 'of a reappraisal of the agricultural value of different types of land and soil' or of 'the movement of whole villages to new sites...the movement of individuals from villages which are poorly located for commercial farming to those which are more favourably situated...[and] the departure of individuals or nuclear families
[565] [171] from the village to become independent farmers' as have been indicated by Ward (1964:487-93) in the case of Fiji. No distinct socio-economic groups have emerged at the village level. By contrast, in a recent study of village agriculture in Aitutaki, Cook Islands, three economic groupings are identified - the gardeners, gardener-employees (those with part-time jobs) and employee-gardeners (holding full-time positions) - this breakdown in the homogeneity of the communities being considered as one measure of the degree of commercialisation of the economy (Johnston 1967:36-8 and 91-3). Finally, there is as yet no evidence of individual specialisation where 'The planter restricts and narrows his activities in two directions: he concentrates upon agriculture to the exclusion of non-agricultural activities and on cash crops to the exclusion of [illegible]-cash crops' (Johnston 1967:60).

361 178 166 Rimoldi, in investigating the recent history of settlement among the Mt Lamington Orokaiva (1966:39-47 and 65-70), distinguishes

361 178 166 three elements of change, first, a trend towards the amalgamation of hamlets into larger units which assume the formal layout now characteristic of Sivepe, second, considerable mobility of settlements, and third, a high degree of individual mobility. However, the first and second he considers to be largely a function of Administration pressures and of ill-defined aims to improve the economic base of their livelihood (as is characteristic of Sivepe's intended move), and the third to be related to the 'vicissitudes of social relationships' rather than to any connection between settlement and garden sites.

241 178 The changes which have taken place in the range and relative importance of subsistence crops largely reflect the need to find a more reliable and adequate food supply during the dry season, although the tendency to increase the acreages of both yams and *Xanthosoma* at the expense of sweet potato and taro might also reflect a conscious effort by some to economise on time and effort in the subsistence sector.

433 184 The survey of activity patterns reveals little variation within the samples in the relative importance of the subsistence and external sectors: even those most strongly oriented to cash cropping are concerned first with achieving subsistence. The two most active people in the Sivepe sample, Linton and Palminus, register an above average level of activity through the whole range of tasks, the manner in which they allocate their time being proportionately little different from that of the sample as a whole. This applies equally to the entrepreneur in Inonda, who spends over half his working week in productive subsistence activities. His entrepreneurial activities are directed primarily towards a trade store which is not particularly demanding in terms of his time. In this respect his cash-producing preferences parallel those of other men where contract or casual work is preferred since, in the absence of strict schedules, it conflicts little with the requirements of the subsistence routine. [461]

245 [241] There is little difference between attitudes toward cash and toward subsistence crops. In particular the attention given to the commercial trees parallels that given to coconuts, *areca*, breadfruit and other economic trees associated with the subsistence sector in that, apart from planting and harvesting, maintenance is essentially restricted to facilitating access. The absence of any specialised techniques of arboriculture is carried over from subsistence to cash crop trees, the only distinction being that the cash crops are planted in formal stands. The work routine is much the same in that sustained and regular effort is neither required or given and the duration and intensity of individual periods of cash cropping work differ little from that for productive subsistence work.

311 by the dispersal of suitable agricultural land over a wide area, creating a large 'journey to work' component in all productive tasks. After moving the village to its new site, an area about twenty minutes' walk away was selected for extensive new coffee gardens (partly on the grounds of proximity to an ample supply of water), but it was eventually rejected and seedlings were planted instead in harvested food gardens only five minutes away from the village.

433 For the indigenous producer transport is a major consideration. Clark and Haswell (1964:157) state that

> The methods of transport available to subsistence agricultural populations...are so costly that produce only has to be carried a limited distance before most of its value, from the point of view of net returns from the sale, has gone.

Porterage is arduous work requiring a good diet, and the minimum cost measured in terms of kg. grain equivalent/ton km., is high compared with other modes of transport.[1] The lower the value of a good per unit weight the more critical this factor becomes. In the case of coffee and copra, where initial processing results in a weight loss in excess of 80 per cent,[2] considerations of distance from the planting to the village (where the processing is carried out) are [361] particularly important. The Sivepe people market their parchment coffee at a point about one hour's walk from the village but they consider the distance excessive and hope to eliminate it by relocating the village on a road accessible to buyers' vehicles. If a journey of one hour's duration is considered the maximum they will carry their parchment coffee, it is reasonable to suggest that one-fifth of this time, or twelve minutes, is the maximum they are prepared to walk from village to garden to harvest the crop. Certainly it is evident that, given the means of transport available, the marginal utility of cash cropping decreases rapidly from village to garden and to point of marketing, with the rate of decrease considerably higher in the former direction.[3]

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[1] See Clark and Haswell 1964:160-3.

[2] Among the Chimbu of the New Guinea highlands it is estimated that 5.48 lbs of arabica cherry produces 1 lb of parchment (Brookfield: personal communication) - a weight loss of 81.8 per cent. It is assumed that the kernel comprises one-third of the total weight of a coconut and, of this, 50 per cent is water. In good quality copra the moisture content is reduced to 6 per cent - i.e. a weight loss of 81.6 per cent is effected in the production of copra (Department of Commerce and Agriculture 1953:1).

[3] While the ratio may remain constant the actual time involved will, of course, vary greatly from point to point, according to such considerations as the utility of money, expectations from cash cropping, etc. Thus the Aiga must walk for 3 hours or more to sell their cocoa (Rimoldi: personal communication).

When the Japanese landed at Gona Mission in July 1942, all the Yega - men, women and children - fled into the bush and made their way to Ambasi, 30 miles to the north-west. There they lived for the next two years, returning to the Gona area in 1944. By 1950 they had settled down again on their seven traditional village sites along the coast between Cape Killerton and the eastern end of Holnicote Bay. One new village was established at Surilai on Cape Killerton. 648 722 361

Clan membership determined the village of residence of each family in the Yega tribe. In some instances, place of residence was determined by membership of a particular sub-clan. Of the eight Yega villages, four were inhabited by male members of more than one clan. The remaining four villages were each occupied by members of only one clan and their wives and children. 621 614

After an abortive attempt at communal farming in 1947-52, the large village of Beporo was brought into existence under the direction and guidance of two educated young men who taught that a large village close to the mission church, school and hospital was the 'civilized' form of settlement. Some three quarters of the Yega people, apart from those in wage-work away from home, moved to Beporo village which was expanded to accommodate them. Although a broad pattern of clan residence could still be recognized in Beporo, the clans themselves began to lose their functional identity within the tribe. There was a weakening of traditional kinship patterns of co-operation in everyday activities. 361 178 621 [241] [166] [614] [602]

Although their earlier communal farming venture had failed, the Yega were still very much attracted to the idea of making money from cash crops. Accordingly, with the advice of the District Agricultural Officer (D.A.O.), they cleared 15 blocks during 1957-8 and planted them with coffee trees. These blocks ranged from a quarter of an acre to two acres in area; one was planted by a group of six relatives, the remainder by individuals of various clans. 178 245 242 [654]

For the most part these coffee blocks were cleared in areas of secondary forest which normally formed part of the land rotation cycle for food crop production. Although they were located at distances of up to four miles from the blockholders' villages, only one man changed his place of residence as a direct result of establishing a coffee block. This man moved to Gatara, two and a half miles inland from his previous home and established a single-family homestead, a settlement quite out of keeping with traditional Yega practice. The coffee scheme failed, partly on account of low prices received for early pickings, and partly because in 1960 a much more ambitious cocoa-planting scheme, the so-called Yega Scheme, was begun. It absorbed most of the energies of the Yega during the following two or three years. [242] [591]

accessible by road, enable more efficient agriculture extension services, facilitate pest and disease control, and permit a centrally located cocoa fermentary. 245 242 254 178

To ensure competent local supervision of the establishment of the cocoa plantings, the Agriculture Department Extension Service built a village on the north bank of Ononda Creek. Here trainee agricultural field-workers lived while they worked with the Yega advising and assisting them in the unfamiliar tasks of laying out their blocks, 'lining' the shade trees and ensuring correct spacing of the cocoa trees. The D.A.O. entrusted a local Yega man (Napoleon Aiga of Sambori clan) with the supervision of this work. Although he is not a trained agricultural worker (he was a clerk in the agriculture office at Ioma when selected for the job), Napoleon is a man of great drive and ability; he had the confidence of the Yega and was able to direct and control the trainees who worked with the villagers in the early stages of the scheme. [361] 245 242 654 178 466

Beginning in May 1960, an area approximately 7 by 120 chains was rapidly cleared by communal labour with most of the men of all Yega clans taking part. Provision was made for a road down the centre of the cleared area; 48 blocks were marked off, 24 on each side of the central road on 5-chain frontages. The number of blocks was based on the number of men who originally showed interest in participating in the project, plus two special blocks: one was allocated to the mission and one beside the Gona-Popondetta road was reserved as the site for a future fermentary. The remaining 46 blocks were allocated by ballot to participants in the work. The 46 men to whom blocks were allocated represented almost all Yega lineages; those lineages not represented were ones in which only old people remained in the villages, the young men having left home to work in paid employment elsewhere. After the ballot, one week was allowed for voluntary exchanges before a firm list of blockholders was drawn up. This firm list was, however, still subject to alteration within the framework of the traditional Yega land tenure system. Any cultivator considered to be unsatisfactory could be disciplined by the land custodian; if a blocholder failed repeatedly to comply with the standards expected he could be dispossessed, and his block reallocated to another cultivator. One such reallocation did, in fact, take place late in 1960.[1] 245 242 423 469 178 [614] [613] [466] [425]

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[1] The blockholder ignored three warnings from Nixon about his laziness. As a result he was dispossessed and his block allocated to another cultivator; compensation of $3 for work done already was paid by the new blockholder.

Changes in the Yega settlement pattern after 1960

361 178 Influenced by rapid changes in land use, the location of Yega residences radically altered after 1950. Figs 1, 2 and 3^A illustrate the evolution of settlement up till 1950. In 1950 the Yega lived in small villages spread along four miles of coastline. In [166] 1952-3 occurred the major amalgamation of dwellings into Beporo village already mentioned (p. 29). Members of all clans took part in this move. Although none of the other villages went out of existence at this time, all diminished in size while Beporo grew 161 162 rapidly. Table 4 shows the estimated distribution of population

[TEXT CONTINUED ON PAGE 42]

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103
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Table 4

Distribution of total Yega population by villages in 1960, 1962, and 1964

	Village name	1960 estimated	1962 November	1964 July
A.	Coastal			
	Surilai	60	52	61
	Niniyanda	44	9	5
	Kanaunje	15	17	11
	Basabuga	17	19	14
	Tarebosusu	7	10	Nil
	Banumo	14	8	10
	Gombe	19	15	19
	Siumbago	9	13	Nil
	Beporo	335	275	164
	Gona Mission	7	6	18
	Subtotal	527	424	302
B.	Inland			
	Gatara	6	6	6
	Konje	Nil	6	97
	Otobejare	Nil	8	13
	Imangada	Nil	3	8
	Mumburada	Nil	17	47
	Ononda (D.A.S.F.)*	Nil	5	1
	Ononda	Nil	41	66
	Binjapada	Nil	51	61
	Jamberoda	Nil	Nil	15
	Subtotal	6	137	314
	Total	533	561	616

* Department of Agriculture, Stock and Fisheries indicated that these informants had made no attempt to build houses of their own but were using the facilities available at the D.A.S.F. Ononda settlement.

A, [For figs. 1, 2, & 3, see Category 361, p. 41--Analyst]

102
361
178
131

Figure 1

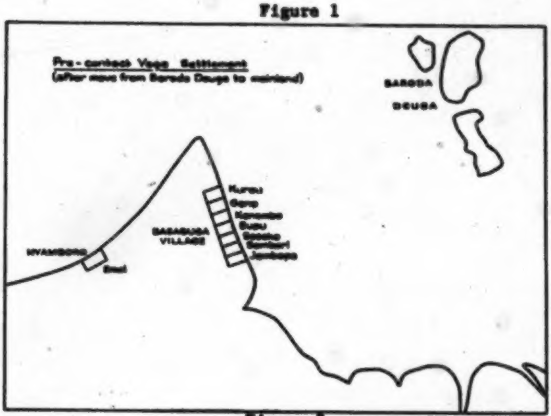

Pre-contact Yega Settlement
(after move from Baroda Deuga to mainland)
BARODA
DEUBA
Kurau
Garo
NYAMBORO
VILLAGE

Figure 2

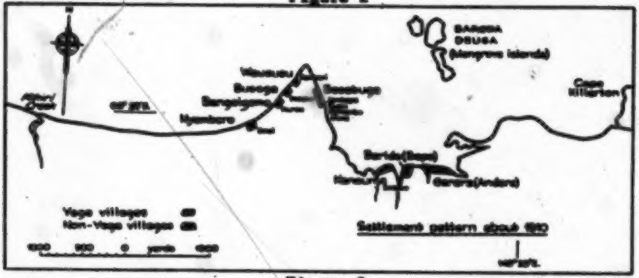
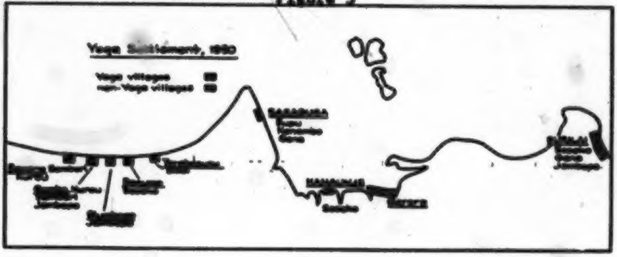

BARODA
DEUBA
(Mangrove Islands)
Cape Killerton
Nyambore
Yega villages
Non-Yega villages
1000 500 0 yards 1000
Settlement pattern about 1910

Figure 3


Yega Settlement, 1960
Yega villages
non-Yega villages

161 162 in 1960[1] compared with the distributions determined by personal interview in November 1962 and July 1964.

361 166 242 245 Table 4 and Figs 4 and 5 illustrate the movement of people away from the coastal villages and the rapid increase in number and size of inland villages which followed the implementation of the Yega Scheme in mid-1960. The men interviewed gave two main reasons for this move inland. The men who were allocated a cocoa block moved so that they would be closer to this new field of work; those who were not allocated blocks moved in order to remain near to their relatives.

361 166 The movement inland began immediately after the start of clearing the cocoa blocks. In July 1960 a young unmarried man of Seseko clan moved from Beporo and took up residence in the D.A.S.F. settlement. He was soon followed by others from Seseko clan, many of them from Kanaunje and Niniyanda villages. These villages are furthest from the cocoa blocks and, being backed by swamps, have more difficult routes of access than other Yega villages. Convenient village sites were available for the newcomers on two patches of grassland known as Ononda and Binjapada. Seseko clan claimed [423] hunting rights to Binjapada and a Seseko lineage claimed cultivation rights to Ononda which had been used by Seseko members as a food garden some years previously. There was therefore no dispute over building sites. Even when some members of clans other than Seseko desired to move from the coast in 1962-3, they were allocated building sites on Seseko land close to the houses of Seseko members. The growth of Binjapada and Ononda villages is shown in Table 5.

The result of the migration inland was the development of a 'ribbon' pattern of settlement along the Gona-Popondetta road (Fig.5). A Binjapada was likewise a ribbon pattern on a side road. The houses in Binjapada were much farther apart than in the coastal villages. This is because the house sites were located close to cocoa blocks (Fig.6). B

A development which might have far-reaching effects upon the future Yega settlement pattern was the attempt by several holders of cocoa blocks to locate their dwellings upon the projected extensions to their blocks (Fig.6). As early as November 1962 the holder of block 16 had moved his home from Beporo village to a site on Binjapada grassland which he calculated would be the extension of his block (see Fig.6). By July 1964 his example had been

[TEXT CONTINUED ON PAGE 48]

A, B, [For Figs. 5 & 6, see Category 361, pp. 45-46--Analyst]

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[1] Calculated from the census taken by the author in 1964. Some degree of error is possible because of the movement of paid employees and their families.

Table 5

Permanent residents of new villages of Binjapada and Ononda
As at December 1962 (to nearest month)

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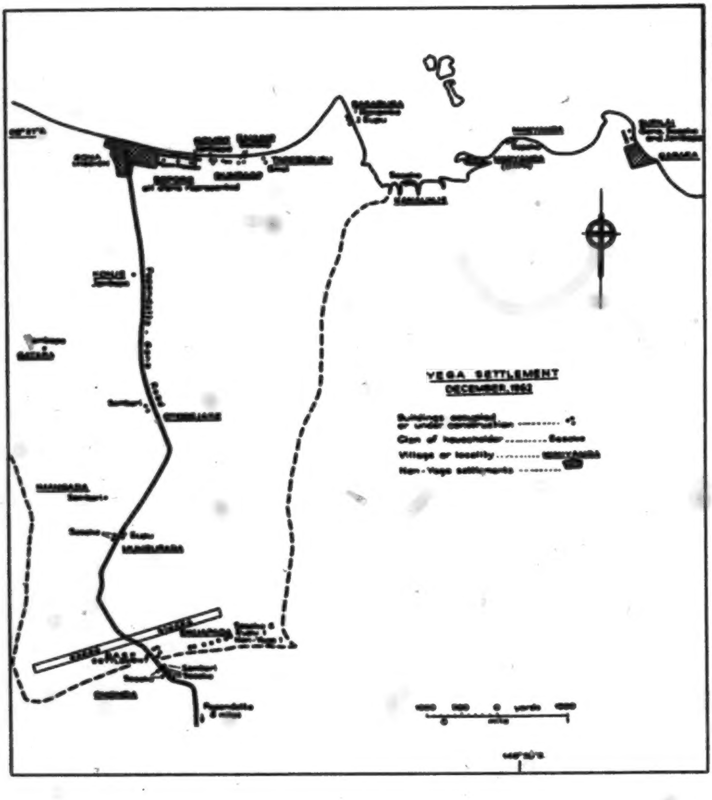
361
614
621

Informant	Village of present residence	Months since move	Village of last residence	Village of birth	Clan	Marital status
14	Binjapada	24	Beporo	Kanaunje	Seseko	M
1	"	12	Miniyanda	Kanaunje	Seseko	M
9*	"	12	Miniyanda	Kanaunje	Seseko	S
2	"	2	Miniyanda	Kanaunje	Seseko	M
4	"	2	Kanaunje	Kanaunje	Seseko	M
5	"	2	Kanaunje	Kanaunje	Seseko	M
6**	"	2	New Garara	Old Garara	Andere	M
7	"	2	Kanaunje	Kanaunje	Seseko	M
8	"	1	Surilai	Kanaunje	Seseko	M
24	"	0	Beporo	Basabuga	Gena	M
25	"	0	Beporo	N/S	Seseko	M
26	"	0	Beporo	Basabuga	Kupu	M
15	Ononda	12	Beporo	Kanaunje	Seseko	M
16	"	2	Beporo	Banumo	Seseko	M
17	"	2	Beporo	Banumo	Seseko	M
18	"	2	Beporo	Banumo	Seseko	M
3	"	2	Beporo	Gombe	Jambapa	M
10	"	2	Beporo	Banumo	Seseko	M
20	"	0	Banumo	Banumo	Seseko	M
21	"	0	Beporo	Beporo	Sambori	M
22	"	0	Beporo	Beporo	Jambapa	M
23	"	0	Beporo	Beporo	Jambapa	M
12	Ononda (D.A.S.F.)	30	Beporo	Banumo	Seseko	S
11	"	12	Beporo	Banumo	Seseko	S
19	"	12	Beporo	Banumo	Seseko	S
13	"	2	Beporo	Gombe	Kurou	S

[732] * Brother of informant No.1, whom he helped. He was a deaf mute and had not been allocated a cocoa block.

[423] [425] ** He is a non-Yega man who was accepted into the Seseko clan of Yega. He was allocated a cocoa block in the Ononda Scheme and his son was adopted by a Seseko man from whom the boy could inherit land. At the time of the second visit to Yega in July-August 1964 this man had rejoined his own people and his block was reallocated to a Yega man.

Figure 4


YEGA SETTLEMENT
DECEMBER, 1962
Buildings occupied or under construction
Clan of householder
Village or locality
Non-Yega settlements
yards
0
mile
1

102
361
131
491
245

10: Dakeyne K-5 (1962-1964) 1966 OJ23 Orokaiva OJ23
Yega
Ononda

Figure 5

102
●361
131
491
245

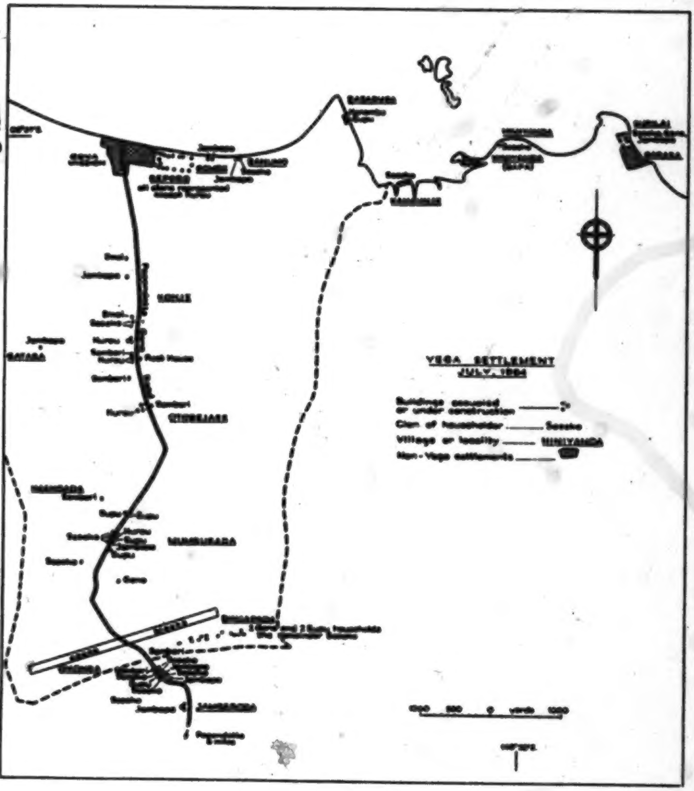
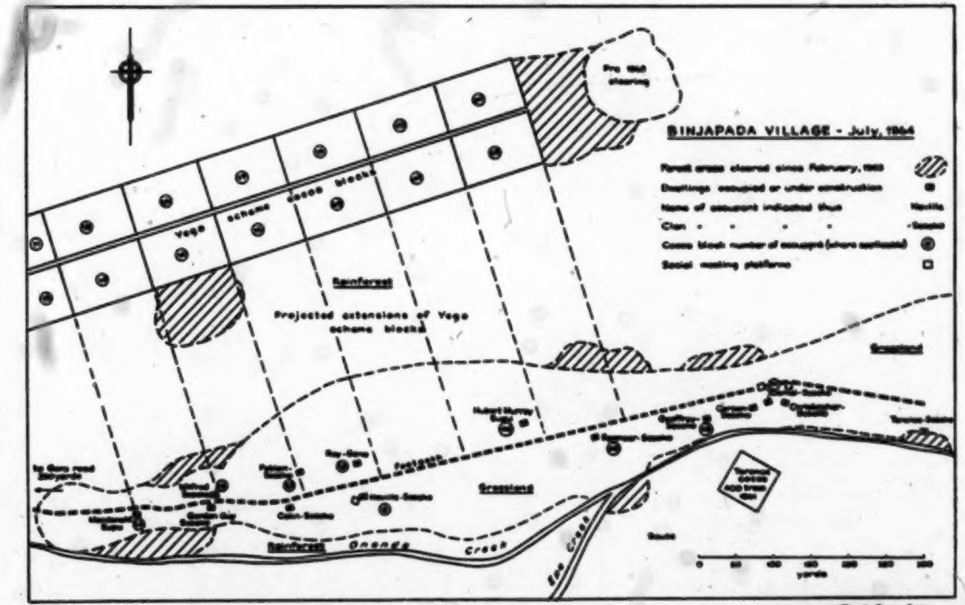

YEGA SETTLEMENT
JULY, 1964
Buildings occupied or under construction
Clan of householder — Seseko
Village or locality — HINIYANDA
Non-Yega settlements

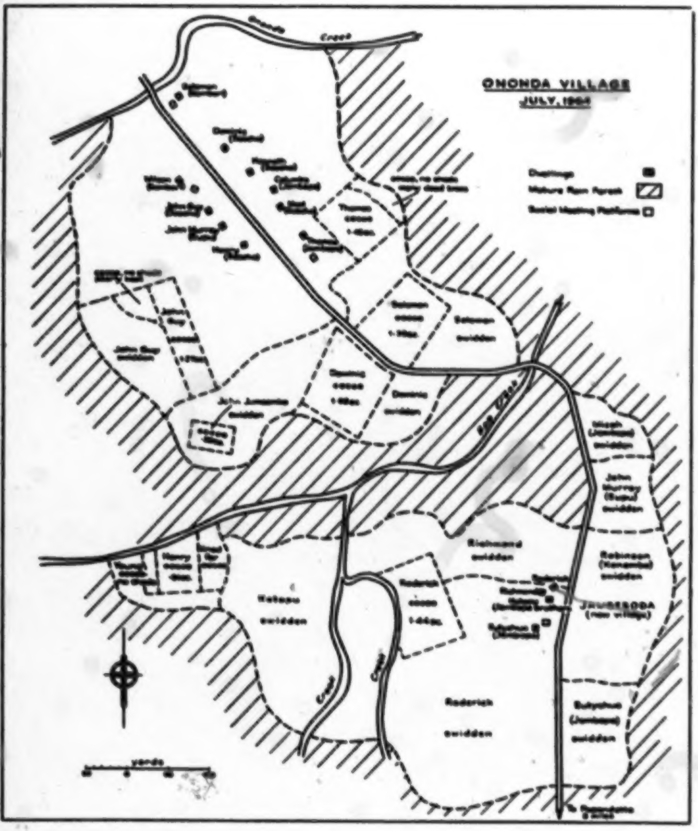
Figure 6


BINJAPADA VILLAGE - July, 1964
Forest areas cleared since February, 1963
Dwellings occupied or under construction
Name of occupant indicated thus
Clan
Cocoa block number of occupant (where applicable)
Social meeting platform
Yega scheme cocoa blocks
Rainforest
Projected extensions of Yega scheme blocks
Grassland
Grassland
Rainforest
Onanda Creek
Eoe Creek
yards

102
361
245
614
311
489
133

Figure 7

102
361
245
311
491


ONONDA VILLAGE
JULY, 1964
Creek
Dwellings
Mature Rain Forest
Social Meeting Platforms
John Jumarine swidden
Creek
Richmond swidden
Robinson swidden
John Murray swidden
Roderick swidden
swidden
Creek
Creek
yards

361 166 followed by the holders of blocks 14, 18 and 46.[1] In the development of the new settlement pattern at Binjapada, the existence of an elongated grassland area lying roughly parallel to the cocoa blocks cannot be ignored. The absence of such a grassland area in the vicinity of the western section of the cocoa blocks was one of the main reasons why no similar 'shoestring' village developed there. Holders of blocks in the western section built their new homes either in the village of Ononda or in smaller hamlets beside the Gona-Popondetta road at distances up to two miles from their blocks. Those who built in Ononda were in general men with no previous cultivation rights to garden land close to the cocoa 361 166 241 423 blocks. After establishing their homes in Ononda village most of these villagers cleared rain forest in the Ononda area, thus establishing their cultivation rights to nearby areas of land. Villagers who established new homes along the road, on the other hand, in most instances built upon or near to land over which they possessed cultivation rights. To the men in this group, proximity to food gardens was a powerful subsidiary reason for moving inland.

Extension of the Yega Scheme

178 245 The foregoing description shows that the Yega Scheme was a major factor in recent changes in Yega land use, land tenure, cash income, work organization and place of residence. The process begun by the Yega Scheme generated further change, particularly amongst those Yega who did not obtain cocoa blocks at Ononda.

245 In February 1963 many Yega were disappointed because they had no individual area of cocoa. It had already become apparent to most of them that a half or quarter share in the block of a relative would return them very little income; all those who had missed allocation of one of the Ononda blocks were, therefore, very eager to clear a further block. Clearing did, in fact, begin on a new block parallel to and south of the Ononda block, the week the author left the area in mid-February 1963. However, very soon after this, the Yega organizer of cocoa planting, Napoleon Aiga, was posted by D.A.S.F. to another district, and instead of continuing with another 'block' development, people began clearing and planting in scattered blocks. Seven blocks totalling about eight acres were planted in this manner. Several aspects of these plantings require comment.

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[1] According to the author's rough pace and compass traverses, two of these men had in fact built their dwellings on neighbouring blocks. Accurate surveys were therefore needed in order to avoid future difficulties.

245 423 All plantings were made on the south side of Ononda Creek in the area which the Yega claimed because it was their Bowori (extinct) clan land but which the Ahora also claimed by right of conquest. The Yega decided to reinforce their claim by occupying at least a portion of the disputed territory (Fig.7).

241 245 423 [614] [613] A large area of rain forest was cleared for food gardens in addition to the cocoa blocks planted. Permission to clear was in all instances given by the land controller, Nixon Kairembora. Swiddens were cleared by members of Sambori (1), Jambapa (5), Konambo (1), Eupu (1) and Seseko (3) clans. Cultivation rights to the land on which these swiddens were made would then be vested in the lineages to which the individual gardeners belonged.

166 361 245 241 One instance of change of residence as a result of these new clearings was noted. Three Jambapa brothers built their homes on Jamberoda grassland near which they had cleared a swidden and planted food crops and cocoa (about half a mile south of Ononda village and well into disputed Yega/Ahora territory). These houses were the furthest extension of the ribbon pattern of settlement developing along the Gona-Popondetta road; this hamlet typified the Yega trend away from large nucleated settlement to a farmstead pattern in which homes were dispersed on or near the main garden and cash crop areas.

245 423 In March 1964 a group of 23 Yega men, only one of whom had been allocated a cocoa block at Ononda, decided to clear another large tract of rain forest which would then be divided equally among the participants in the scheme. The site chosen for this new block-type development was Berojou near the south-west Yega/Beuru boundary. This boundary had been declared by the Land Titles Commissioner, surveyed, and marked by cement boundary posts. Though final siting arrangements for the individual blocks had not been completed it was expected that blocks would be approximately 10 chains frontage by 20 chains depth (frontages double those of the Ononda blocks).

245 423 614 602 The Berojou scheme differs in two major respects from the earlier Yega schemes at Ononda. Firstly it was sited on land over which certain clans, Jambapa and Kurou, had recognized rights of allocation and secondly all members of the group concerned in the development were members of these two clans or had close affinal ties with them. Men related to Jambapa were allocated blocks on Jambapa land while men related to Kurou were allocated blocks on Kurou land. These relationships illustrate the way in which rain forest was traditionally cleared by the Yega. A close affinal tie was usually essential before a person could be invited to join another group and clear rain forest belonging to another clan.[1]

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[1] Ten men in this group planted the land of other clans. In six cases their mothers were members of the clans on whose land they

245 Work on this scheme had not progressed far at the time of observa-
476 tion because of unseasonable weather. Underbrush and small trees had
been cut by each individual on his block but it was decided to wait
for dry weather before cutting the big trees by communal effort.
All Yega would then be invited to help and helpers would be recompensed after the clearing of each block by a feast given by the
blockholder and his family.

245 As with the Yega Scheme, the advice and help of Agricultural
(242) Extension Service officers was requested and given. The site was
inspected and soil suitability evaluated before the Yega started
[484] clearing. However, although the layout of the Berojou blocks
closely resembled the Ononda blocks, they are half an hour's walk
[487] along narrow footpaths from the Gona-Popondetta road, the only
vehicular road in the area.

245 The people concerned in the scheme lived in various places.
Most lived in the Konje area, one at Mumburada, one at Gatara,
361 while eight lived in Beporo and one further away at Gombe. How-
166 ever, it was likely that the Beporo and Gombe people would move
inland in the near future. There was at the time no talk of moving
home sites to the new cocoa blocks at Berojou.

Conclusions

241 The clearing of rain forest for planting blocks with permanent
245 tree crops whose produce was to be sold for cash was a radical
178 departure from traditional Yega land usage. The Yega Scheme in-
corporated traditional principles of land tenure and work
423 organization with modifications to meet the changed circumstances
of today. Features deriving from traditional precedents were:

[476] [464] (i) the use of communal labour to clear the forest, and the subdivision of the cleared area among those who helped in the work;

(ii) the absence of any documentary record of the transference of rights to individual right holders (although this was later provided under new legislation);

[464] (iii) the organization of group labour for certain tasks even though recruitment of members might not necessarily be based on purely traditional criteria;

---

245 (continued)
423 planted, in one case the wife was, in one case the father's sister's
214 husband, in another the half-brother by a different father and in
602 the last case, the father of a half-brother.

241 245 178 (423) (iv) the strong desire of individual members of extended families each to have personal control of a piece of land and of useful trees on that land.

The aspects which had little precedent in traditional custom were

(i) the systematic layout of blocks;

(433) (ii) the production of crops for sale;

(242) (iii) the supervision and guidance of Agricultural Extension officers and workers, most of whom had no kinship ties with the Yega;

● (361) (iv) the provision for the location of a blockholder's dwelling on the block itself rather than in a village.

The value of the Yega Scheme is this combination of old and new which was achieved by basing the scheme on traditional precedents in so far as they were appropriate and incorporating innovations where necessary. The main innovations were organizational and technological - involving new crops, new husbandry techniques, new 241 245 178 464 processing methods and equipment. There was an increase in some forms of group activity, for example bush clearing by all the Yega (whereas bush clearing was traditionally carried out by sub-clan groups), and the proposed co-operative fermentary and marketing facilities. On the other hand, a greater dispersal of residence and the adoption of new mores were responsible for some diminution of traditional forms of group activity. In pre-contact times the family was the basic unit for garden work but larger groups formed for other activities. With the addition of cash crops, agricultural work took more time and many of the larger groups for fishing and social activities atrophied.

241 245 178 423 The rights of the individual in cash cropping land will become more marked in relation to those of the sub-clan and tribe. Whereas food gardens were held by individuals or small descent groups and rights at this level were flexible due to rapid demographic changes and the system of land rotation, cocoa is a relatively permanent crop and the planter is associated all his life with the land on which the trees are planted. With change in the legal status of the land the rights of the social group to the cash crop lands are certain to diminish in favour of individual rights.

361 178 The new pattern of residence, showing tendencies towards 'ribbon' development and particularly towards the dispersal of homesteads, varied markedly from the traditional form. Most significant of all variations from tradition was the location of homesteads by individuals on potential extensions to their cocoa blocks. With
(423) the registration of individual title to these lands it seems likely that this trend will continue. If the trend towards dispersion

continues, a pattern of farmsteads set in consolidated, individual holdings may well replace today's villages and hamlets with their fragmented, widely-scattered landholdings. 361 178

Acknowledgments

This paper is portion of a wider study of Yega land use and settlement. The author gratefully acknowledges assistance and advice from colleagues in Australia, from officers of the Administration in Papua and from members of the A.N.U. New Guinea Research Unit. Field work was financed by research grant from the University of Sydney. 128 122

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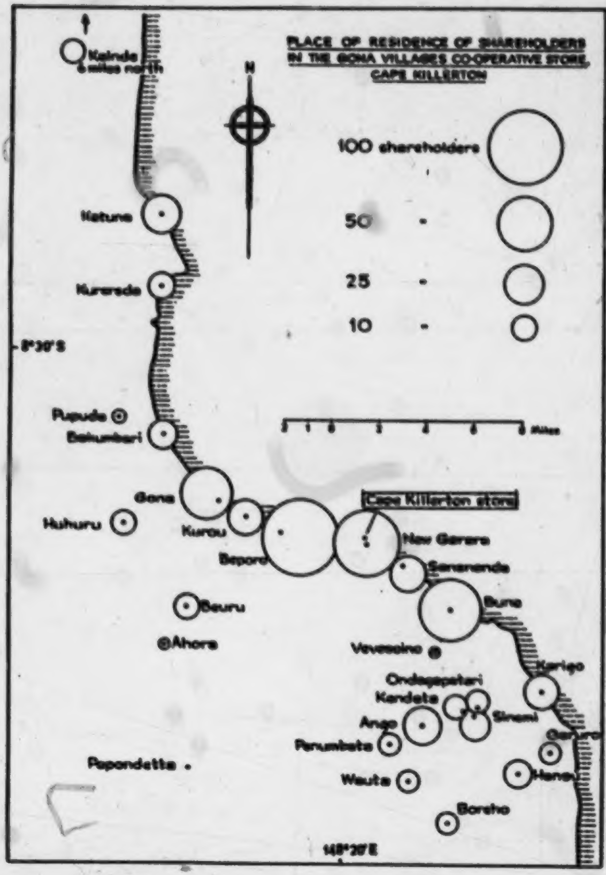
PLACE OF RESIDENCE OF SHAREHOLDERS
IN THE GONA VILLAGES CO-OPERATIVE STORE,
CAPE KILLERTON
100 shareholders
50 "
25 "
10 "
N
2 1 0 2 4 6 8 Miles
Kainde 6 miles north
Katuna
Kurereda
8°30'S
Pupuda
Bakumbari
Gona
Huhuru
Kurou
Beporo
Cape Killerton store
New Gerere
Sananande
Buna
Beuru
Ahora
Vevessino
Karigo
Ondiapapetari
Kendata
Sirami
Ango
Perumbata
Garara
Papondetta
Wauta
Hanau
Boreho
148°20'E

474
443
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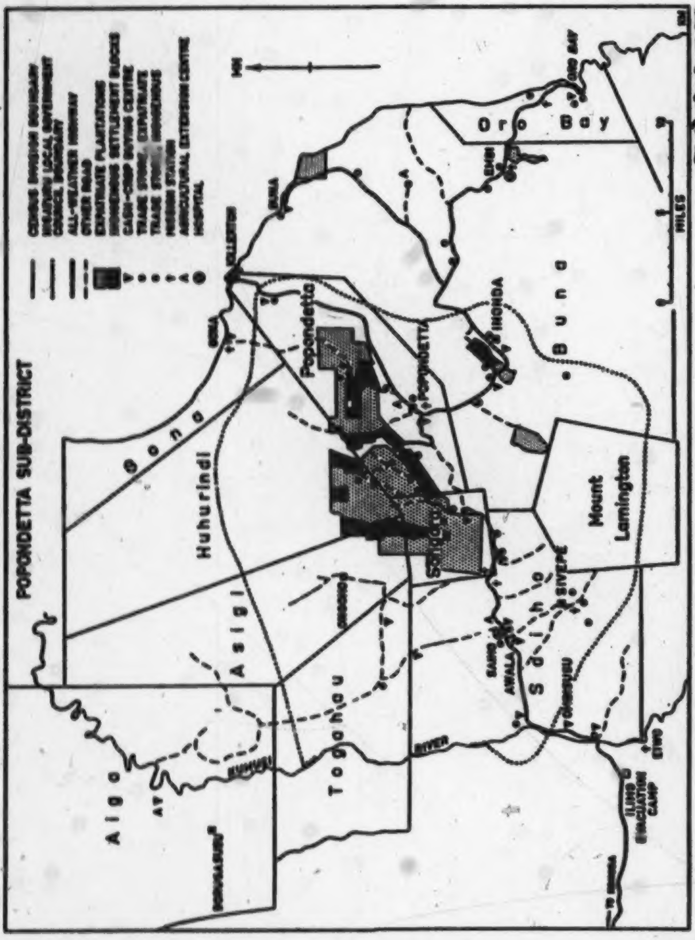
Note. At the time of joining the society Yega members lived in eight small villages but total Yega membership is shown as Beporo. In 1964 the Yega were dispersed throughout their territory in 17 localities varying in size from 30 houses to single homesteads.

12: Crocombe E-5 (1962) 1966 OJ23 Orokaiva OJ23
Inonda


POPONDETTA SUB-DISTRICT
CENSUS DIVISION BOUNDARY
HIGATURU LOCAL GOVERNMENT COUNCIL BOUNDARY
ALL-WEATHER HIGHWAY
OTHER ROAD
EXPATRIATE PLANTATIONS
INDIGENOUS SETTLEMENT BLOCKS
CASH-CROP BUYING CENTRE
TRADE STORE, EXPATRIATE
TRADE STORE, INDIGENOUS
MISSION STATION
AGRICULTURAL EXTENSION CENTRE
HOSPITAL
MN
Aigo
Asigi
Huhurindi
Gona
Popondetta
Togahau
Sangara
Saiho
Buna
Oro Bay
Mount Lamington
GONA
KILLERTON
BUNA
POPONDETTA
INONDA
EMBI
ORO BAY
SAIHO
AWALA
SIVEPE
KUMUSI
RIVER
ILIMO EVACUATION CAMP
MILES

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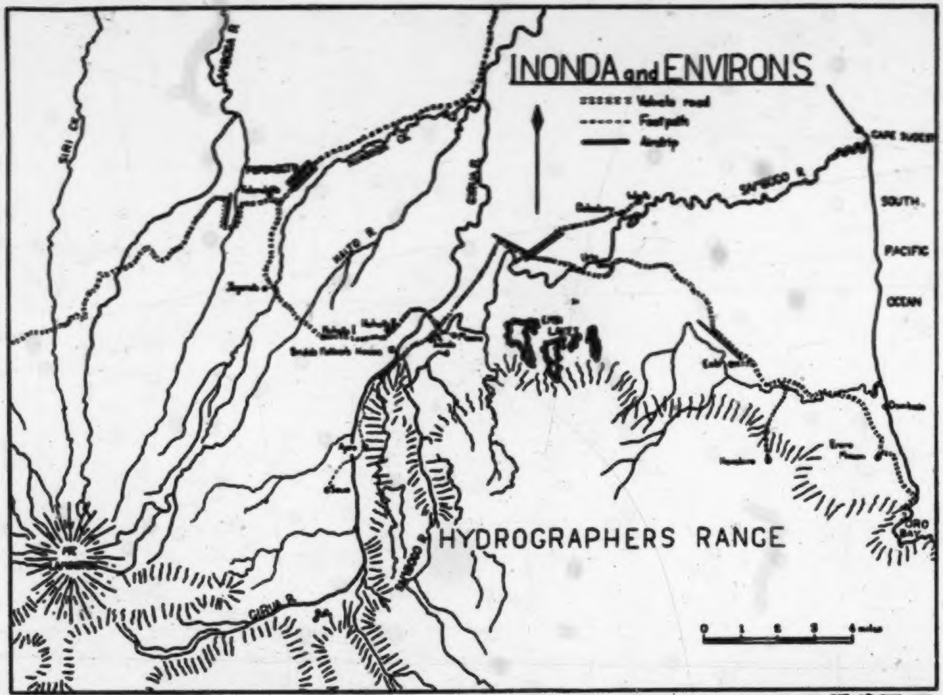
[p.ii]


INONDA and ENVIRONS
Vehicle road
Footpath
Airstrip
CAPE SUDEST
SAMBOGO R.
SOUTH PACIFIC OCEAN
GIRUA R.
SIRI CK.
MT. LAMINGTON
HYDROGRAPHERS RANGE
ORO BAY
0 1 2 3 4 miles

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133
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487
491
508

599 768 428 inherit rights to some of his adoptive father's land, but most of the land will pass to the adoptive father's brother's children. If the adoptee does not remain in the village he will acquire no rights. The other children of the new wife remained in their home village with their father's kin. They will acquire no rights in Inonda.

In fact the fathers of over half of the Inonda men seem to have died before the children reached maturity. Most men, therefore, have been in an adoptive relationship, though in varying degrees, and one man had three adoptive fathers in succession. If land is readily available adoptees most frequently inherit from their own fathers, but if this is not convenient, rights can be acquired from the adoptive father.

There is usually no ceremony to mark adoption but it is of interest to note that the status of adoptees (and others whose status within a descent group is vague or marginal) is to some extent fixed by the government census. This is no doubt unintentional on the part of the census-takers, but we have frequently heard people say that a certain person should get his rights from a particular man because the patrol officer recorded them together in the village book; or in a particular village because his name appears in the register of that village.

Rights in relation to categories of land

423 361 House-sites: The various house-sites in Inonda were allotted by informal discussion at the time the village was set up. At first the Andiriha built their houses on the northern side and the Jego'undi on the southern side of the village square but the Andiriha have subsequently expanded to the western and southern sides. The eastern side is occupied by the government rest house. Where two brothers live in separate households, their houses are adjacent, as are those of fathers and sons. [613] House-sites of members of the same lineage are contiguous except in the case of a recently married man who had to build on another site within the village because the area occupied by his lineage was full.

[425] There do not seem to be any specific boundaries between houses, and rights to any particular house-site are said to

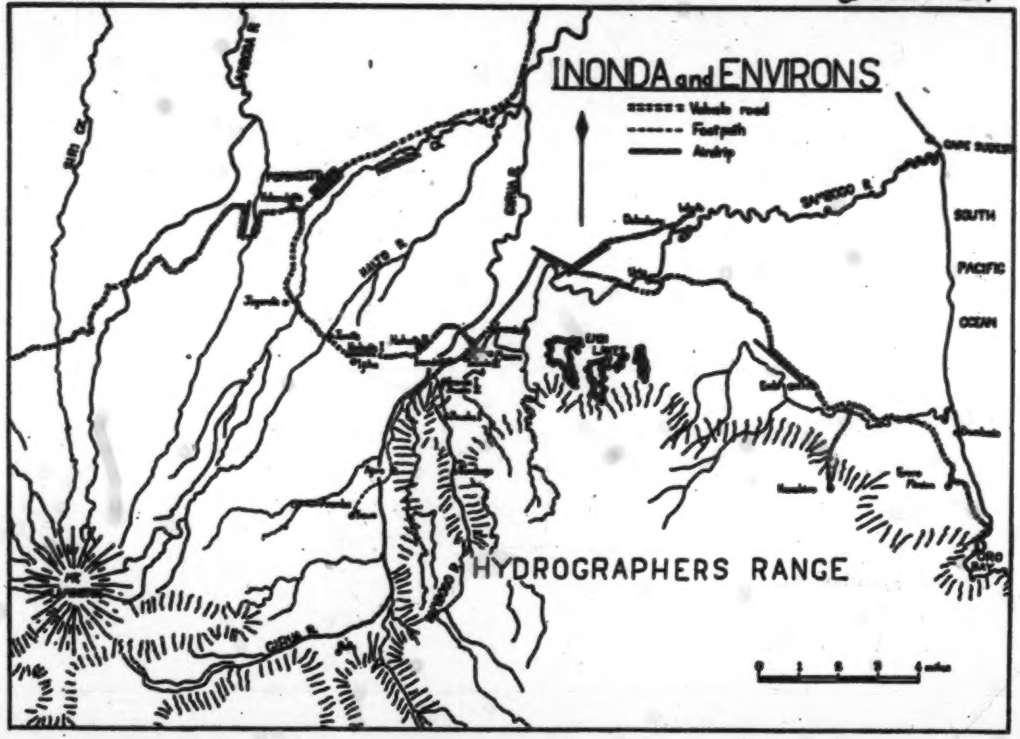
429 be available to any villager if another abandons them and does not intend to rebuild on that site. The people can, nevertheless, 361 point out the sites of the houses of particular individuals in [425] former villages and in some cases these are marked by coconut or other trees. It appears likely that the ideal Orokaiva pattern was to occupy a series of village sites in turn (following the rotation of garden sites) but the Inonda people have not been settled long enough in one area for the rotation to become established. The people today claim that individuals and lineages retain rights in economic trees growing on former village sites but that rights to the house-sites themselves have lapsed.

429 Garden land: There is considerable flexibility in the relationship between the planting of food gardens and the holding 241 of rights to land. Of the 55 gardens (covering 27.1 acres) 619 which were surveyed, only 20 (covering 9.8 acres) have been 614 planted on land held by the lineage of which the planter is a primary member. Twenty-eight gardens have been planted on land in which the planter belongs to a different lineage within the same sub-clan or village. Three gardens have been planted on land held by another lineage of the same clan but in a neighbouring village, and the remaining four have been planted by a man who has no hereditary rights in Inonda lands but whose daughters have married into the village, one into the leading lineage. Details are shown in Table 3. Permission to plant is granted on a reciprocal basis and where the planter does not belong to the rightholding lineage, it is tacitly understood that when the main block of gardens moves to his lineage's land, he will permit other members of the sub-clan or village to plant gardens there if they wish.

Two of the five gardens which have been planted on land outside the Inonda limits are on the land of the Andiriha sub-clan in Hohota village. The planter of both was a born member of an Andiriha lineage which is represented in both Hohota and Inonda. He shifted to Inonda many years ago and joined the Inonda branch of his lineage. It appears that the gardens have been made in order to maintain or emphasize his claims to the land. His adopted son, who belongs to a different lineage, has also cleared a patch of second growth in order to make a food garden on this land. Two other gardens (one a feast garden) have been planted on Andiriha land at Hohota by the man who has

[TEXT CONTINUED ON PAGE 35]

14: Crocombe & Hogbin E-5 (no date) 1963 OJ23 Orokaiva OJ23
Inonda


INONDA and ENVIRONS
Vehicle road
Footpath
Airstrip
CAPE SUDEST
SAMBOGO R.
SOUTH PACIFIC OCEAN
HYDROGRAPHERS RANGE
GIRUA R.
ORO BAY
0 1 2 3 4 miles

102
311
241
● 361
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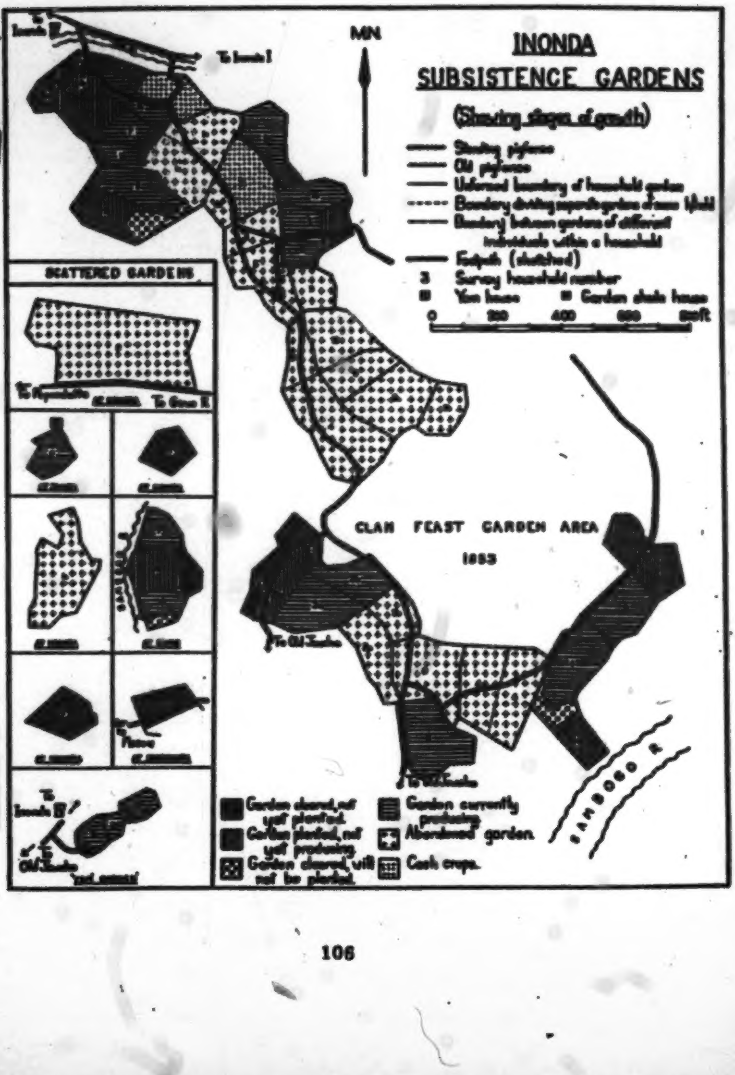
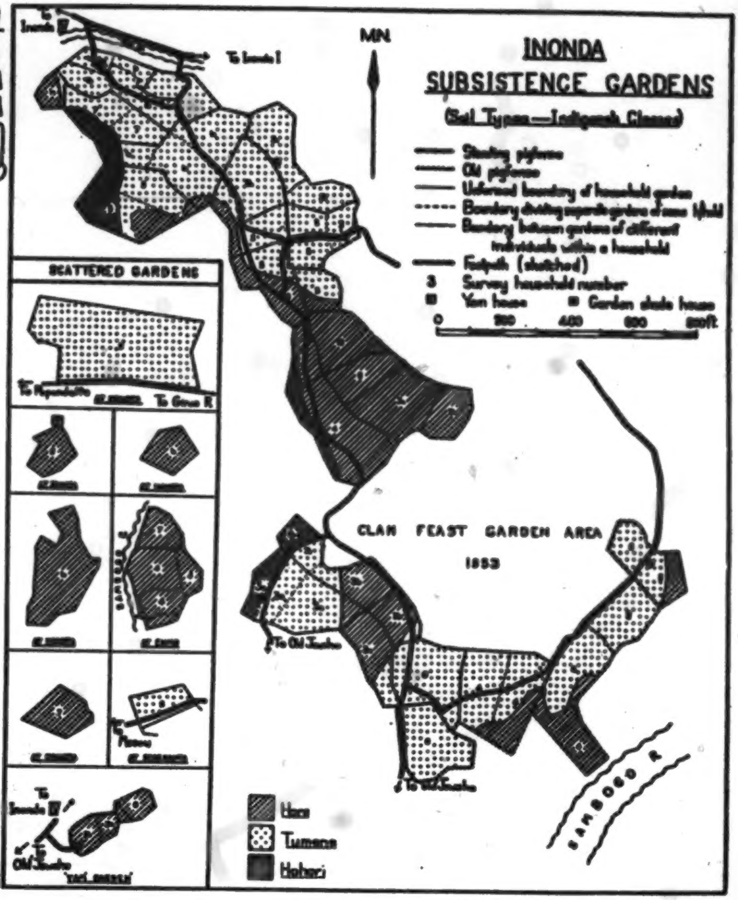

To Inonda II
To Inonda I
MN
INONDA
SUBSISTENCE GARDENS
(Showing stages of growth)
Standing pigfence
Old pigfence
Unfenced boundary of household garden
Boundary dividing separate gardens of same h/hold
Boundary between gardens of different individuals within a household
Footpath (sketched)
3 Survey household number
Yam house
Garden shade house
0 200 400 600 800ft
SCATTERED GARDENS
CLAN FEAST GARDEN AREA
1953
To Old Inonda
To Old Inonda
BAMBORO R.
To Inonda II
To Old Inonda
Garden cleared, not yet planted.
Garden planted, not yet producing.
Garden cleared, will not be planted.
Garden currently producing.
Abandoned garden.
Cash crops.

14: Crocombe & Hogbin E-5 (no date) 1963 OJ23 Orokaiva OJ23
Inonda

102
311
241
361
487
823


INONDA
SUBSISTENCE GARDENS
(Soil Types—Indigenous Classes)
Standing pigfence
Old pigfence
Unfenced boundary of household garden
Boundary dividing separate gardens of same h/hold
Boundary between gardens of different individuals within a household
Footpath (sketched)
Survey household number
Yam house
Garden shade house
0 200 400 600 800ft
MN
To Inonda II
To Inonda I
SCATTERED GARDENS
To Garua R.
CLAN FEAST GARDEN AREA
1953
To Old Inonda
SAMBOGO R.
Tumana

241 it reverted to the Crown, C, as grandson of the main original
423 vendor, regarded himself as having a right in the abandoned pro-
472 perty. After some years of negotiating he now has a ninety-nine
year lease at an annual rental of $7.95. Here he has planted
[427] cocoa and coconut trees.

At any time during his twenty years' employment D could have returned to his home area and planted cash crops on the ample family lands there. It was only when the opportunity arose of a
[654] resettlement block with a development loan of $1,500 that he
[426] decided to undertake cash-cropping; he has now planted over
3,000 cocoa trees.

472 Few Orokaiva are short of land in the area east of Popondetta
423 where the entrepreneurs are located. Land availability is not a
factor differentiating entrepreneurs from villagers, but the availability of land other than that held under customary tenure may well be.

The entrepreneurs appear to be more efficient food gardeners
241 than many Orokaiva, for even though they average less time garden-
472 ing (see Table 6)A they have more extensive gardens, as shown in
184 the following table.

Table 1

Area of land under cultivation for food gardens
(acres)

	Per head of population	Per able-bodied person over 16	Per household
A's hamlet*	-	-	1.45
B's household	1.20	1.20	3.61
C's household	0.67	2.36	4.72
D's household**	0.75	1.50	3.00
Average	0.65	1.26	3.19
Average for Inonda and Sivepe***	0.34	0.69	1.48

[592] * Measured for the six household heads in A's hamlet in December 1965 at the end of a long drought. They estimated their normal garden area to be nearly double this. A lives in a hamlet comprising himself, his brothers and some of his married children. The hamlet is a short distance from the village of Kapurahambo.

** Estimated, not measured.

[361] *** From Crocombe and Hogbin 1963b:10, and Rimoldi 1966:19. Inonda is a village on the sparsely settled plain, Sivepe village is located in the more fertile hilly country where population is denser. They were chosen as apparently representative of the two major ecological zones inhabited by the Orokaiva. All four entrepreneurs live in the former, plain zone.

A. [Table 6 appears in Category 461, p.19--Analyst]

Work patterns

472 Records of time spent in various tasks was kept by A for ten
461 weeks, and by B and C for twenty weeks.[1] The results are summarised
in Table 6. Records were also maintained for their families and
these plus those for the entrepreneurs themselves are summarised
in Table 7.

472 These tables show some marked differences between the work
461 patterns of the entrepreneurs and those of villagers. The entre-
184 preneurs spend less time on subsistence gardening than the villagers
spend (5.7 as against 11.5 hours respectively), much less time in
wage employment than villagers (nil as against 6.9), more than
twenty times more in cash-cropping and trading (19.5 compared with
0.7), only a fraction of the time acquitting traditional social
obligations (1.0 as against 8.7) but considerably more in community
activities as officers of co-operatives, local government, church
bodies and other public agencies (7.6 as against 0.5). The same
trends are apparent, though not so marked in degree, where the
entrepreneurs' families are included (Table 7).

472 Time spent on social obligations is kept to a bare minimum.
461 This is facilitated to some extent by the fact that all the
[361] entrepreneurs live out of sight of the village houses. Non-
conformity would be more difficult if they were living right in
the village. During the twenty weeks' survey of B's family, for
example, they took only one day off for each of two deaths in the
village. Had they lived in the village they would have been in-
volved for many days. In another instance which occurred before
472 this study began, a classificatory brother of B's wife died in
461 Inonda, just over the river from where he was living on his coffee
765 block. After two days' brief formal participation in the mourning
he removed to his Hohota house and worked on his cocoa there. Two
days after the three weeks' mourning period at Inonda finished he
returned to live at the coffee block. Had he remained at the coffee
block during the mourning he could hardly have continued to work
[184] full-time on his cash crops. The Inonda villagers, by contrast,
left cash-cropping entirely during this period.

---

472 [1] The periods recorded were: A and his family ten weeks from
461 14 June to 23 August 1963; for B, twenty weeks from 1 September
126 1962 to 18 January 1963 and for C, five and a half weeks from
114 22 December 1965 to 29 January 1966. No records were made of D's
[161] work patterns. Watches and forms for recording work patterns were
issued to A's eldest son, B's son and to C. For the first week
either the writer, Mr Hogbin or Mr Burau lived with the people
maintaining the records, but the period of our residence is not
included above. One of us or Mr Eupu made visits to collect the
records and discuss problems every few days.

423 This has been documented by recent research carried out in three
Orokaiva areas: at Inonda by Crocombe and Hogbin (1963:28), among
614 the Yega by Dakeyne (1965), and at Sivepe by Rimoldi (1966:95).

Under the traditional Orokaiva tenure system most individuals
[361] have rights to several pieces of land scattered throughout the
[241] area claimed by the clan. Thus an individual often has to walk
some distance from one food garden to another and he may have only
a small area of land on each plot. These facts were significant in
determining the attitudes of the Ombi-Tara people to tenure conversion (see Chapter 3).

An individual is considered to have a presumptive right to clear bush behind his plot in order to extend his planting, without consulting other members of the clan.

423 Clearing of bushland is often a community affair, with the
311 lineage and sometimes the whole sub-clan co-operating, but planting
241 is organised by individual households, with some reciprocal assist-
476 ance from other households for specific tasks at irregular intervals.

Land use

241 The Orokaiva grow their crops using a system of bush fallow
311 rotation - sometimes called shifting cultivation - which is common
in many tropical areas. Newton (1960:81) describes it as a system under which land is cleared and cropped for two or three years, after which the cultivator allows it to revert to natural vegetation cover and shifts to a new garden. He may abandon land because depletion and erosion cause declining yields, but in many instances he does so because less labour is involved in clearing new land than in using old gardens where weed and pest species are established. Brookfield and Brown (1963:166) suggest that in the absence of fertilisers, capital equipment and improved techniques of agricultural production, no successful alternative to bush fallow rotation has yet been found for tropical agriculture.

Residence patterns

361 The Orokaiva live in villages but each nuclear family usually
occupies a separate house. In pre-contact times villages were
[592] large, probably because clan members clustered together for mutual
[621] protection (Williams 1928:155). However, in 1928 Williams noted a
growing tendency for small groups to form independent settlements.
[614] Families sometimes lived 'for weeks at a time in their garden
houses...no small distance from the permanent village.... Some
families...settle permanently on the site of their distant gardens'
(Williams 1928:129).[1] The present fairly large village appears to
be a relatively recent return to the pre-contact pattern.

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[1] Native Regulation No.90 of 1922 stated: 'The practice of people abandoning their old homes in settled villages and scattering

Post-war tenure innovations in the Northern District

657 654 423 The Higaturu Local Government Council land registration scheme, begun in 1956, was one of the earliest attempts to rationalise tenure in the Northern District and to increase agricultural productivity. Under this scheme all lands on which cash crops were being planted were to be registered by the Council after a survey by chain and compass. The individual in whose name the land was registered could transfer it or nominate heirs to it without reference to the clan or any other group. The scheme was superseded by the tenure conversion legislation of 1962-63.[1]

A second post-war tenure innovation in the Northern District was the Yega agricultural scheme[2] under which in 1960 a group of villagers agreed to set aside a portion of uncultivated land for use by individual members of the group. External boundaries were agreed upon and individual blocks were marked out and plotted. The 1962-63 land legislation has enabled persons holding title under native custom to convert to individual registered title in accordance with the Land (Tenure Conversion) Ordinance 1963 and on 16 December 1965 fifty-six applicants from Yega were granted individual titles to blocks averaging ten acres in area (Smith 1965).

No conversions were made under the 1962-63 legislation until late 1964. Following a recommendation from the Land Development Board it was decided that conversion under the new legislation should be confined in the first instance to the Northern District in order to test and refine procedures. Applications for conversion were being received at a rate of over one hundred per month in the Northern District during 1965. At the end of December 1965, thirty-four tenure conversion schemes[3] were under way in the Northern District, covering 1,725 blocks (i.e. farms) and 33,566 acres. By 10 February 1966 Land Titles Commission hearings had been completed for five schemes, covering 219 blocks and 4,328 acres.[4]

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1 (continued)
361 themselves in small groups over the face of the country is growing in the land.' Feinberg (1956) suggests that the tendency to spread in this way is common in recently contacted societies.

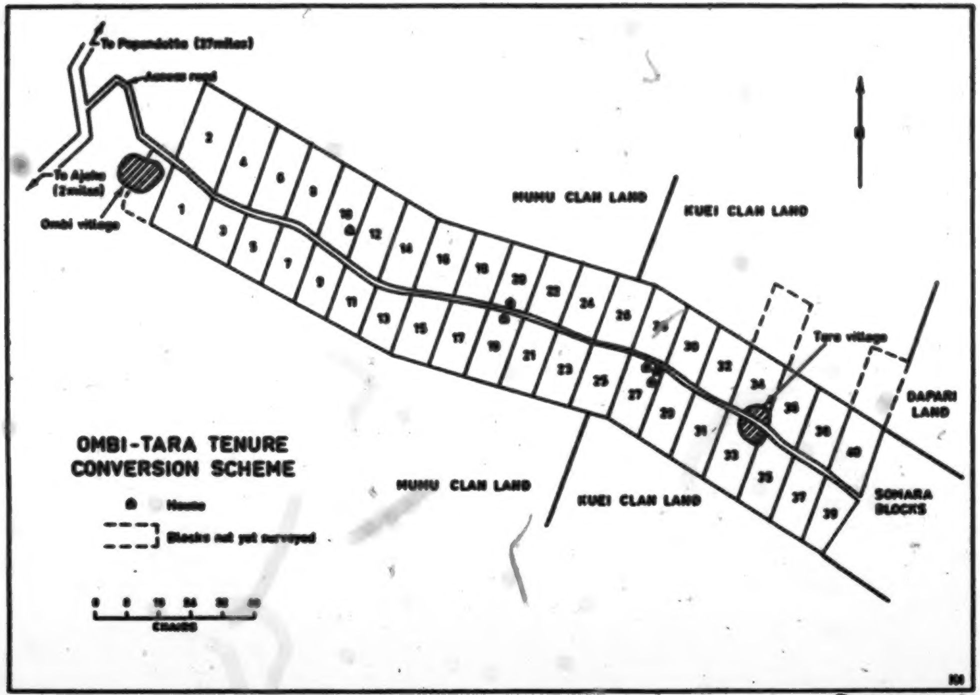
[1] For details of the Higaturu Council registration scheme see Crocombe and Hogbin 1963:89-96.

[2] For a detailed discussion of the Yega scheme see Dakeyne 1965.

[3] Each of which comprised up to sixty or more blocks (each of which would become one farm).

[4] In addition, 120 blocks (3,148 acres) had been formally surveyed; 269 blocks (2,960 acres) were awaiting survey; and 596 blocks (12,570 acres) were awaiting investigation by officers of the Department of Agriculture.

17: Morawetz U-4,5 (1966) 1967 OJ23 Orokaiva OJ23
Ombi-Tara



OMBI-TARA TENURE
CONVERSION SCHEME

To Popondetta (27miles)
Access road
To Ajeka (2miles)
Ombi village
HUHU CLAN LAND
KUEI CLAN LAND
HUHU CLAN LAND
KUEI CLAN LAND
Tara village
DAPARI LAND
SOMARA BLOCKS
N
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32
33
34
35
36
37
38
39
40
House
Blocks not yet surveyed
0
8
16
24
32
40
CHAINS

102
423
614
361
657

Security of tenure

423 241 [182] [829] It is often suggested that the main benefit from tenure conversion is the provision of security of tenure for villagers who wish to plant cash crops. The Ombi-Tara people, however, did not consider security of tenure as a major benefit of conversion. They explained that each man had previously held individual rights to land which were sufficiently secure for him to plant cocoa and coffee. A man could plant such cash crops without consulting the clan leader or other members of his clan, and without others disputing ownership of the crop or distribution of the proceeds. [578] Fourteen people did mention that conversion and the introduction of cement and wooden corner pegs would help to prevent disputes; but they felt the disputes to have been caused by the previous small size of individual plots which sometimes made it difficult for a man to extend his planting (because he would be encroaching on another's land); and to vagueness of boundary lines. Some also referred to the need to clearly mark out land boundaries to forestall potential encroachment by persons from outside Ombi-Tara.[1]

Consolidation of holdings

423 311 361 [829] Most Ombi-Tara people saw consolidation of their previously scattered holdings as the main benefit from tenure conversion.[2] Many people drew finger diagrams on the ground to explain how conversion led to consolidation. Under the traditional tenure system cash cropping involved long walks from village to food gardens and to cash crops.[3] Consolidation not only reduces walking time, but also allows an individual to undertake large-scale planting in a single area. He was previously unable to do this because of the small amount of land he held in each plot, and in some cases because of the small total amount of land to which he

---

[1] In contrast to the Ombi-Tara situation Crocombe and Hogbin (1963:72-80) found in another Orokaiva village that lack of security of tenure was a factor discouraging certain individuals from planting cash crops.

[2] Mentioned by thirty of the thirty-seven blockholders interviewed, including the four most influential people - Charles, the two clan leaders and the Local Government Councillor. These people should be distinguished from the 20 per cent or so mentioned earlier for whom the innovation of conversion was less significant than the change to planting rubber.

[3] Waddell (1966:7) found in another Orokaiva village that time spent travelling to and from places of activity was about 15 per cent of the total time devoted to that activity.

423 had rights.[1] Conversion has caused a redistribution of land rights,
311 with some people losing and others gaining land. Several men who
claimed they had less land after conversion than before said that
361 twenty acres was ample for their needs and that they were pleased
829 to give up some land to help their co-villagers.

There are indications that conversion at Ombi-Tara has facili-
657 tated co-operation between villagers who are planting cash crops.
423 Previously any man who wished to plant cash crops had to work with
182 little assistance, often in a relatively inaccessible area. Since
476 conversion has been introduced, the new road gives easy access to
all blocks and people are more easily able to help one another.

361 Paradoxically, conversion to individual holding of land appears
491 to have strengthened intervillage, interclan and interpersonal
co-operation and to have fostered a community spirit. Intervillage
657 co-operation is demonstrated by the establishment of a joint Ombi-
Tara bank account to purchase equipment for the bush rubber
423 processing unit, and by joint discussions on the nature of the
621 new tenure system. Interclan co-operation is seen in the leader
182 of the *Kuai* clan granting permission for the allocation of a block
on *Kuai* land to a man of *Mumu* clan. Interpersonal co-operation is
illustrated by the apparent willingness of large landholders to
give up all previously held land rights without receiving any
compensation, in order to enable all to take part equally in the
scheme.

657 The Ombi-Tara people are pleased and flattered that many people
423 visit and inspect the blocks. They heard that Ombi-Tara was men-
tioned on the radio and are happy that others ('people all over
182 Papua-New Guinea') should know of their experiment. When two
186 Australian friends of mine paid a short visit to Ombi they were
asked with expectant pride if they had heard of the Ombi-Tara
scheme in Australia. The leader of the *Mumu* clan said, 'We want
Ombi-Tara to have a big name like England, Japan, Hong Kong, Rabaul
and Lae'.

Publicity and information

657 Most Ombi-Tara people (82 per cent) said that they first heard
423 of the possibility of converting land to holding under individual
title after the visit of the Agricultural Officer in late 1963.
177 No one reported hearing first about conversion through Local Govern-
ment Councils, from the Anglican Mission, on the radio or through

---

[1] The then District Agricultural Officer considered consolidation of fragmented holdings to be one of the main benefits that would emerge at Yega, the first tenure conversion scheme in the Northern District (Belfield 1962:1-2).

Chapter 4

Effects of conversion at Ombi-Tara

Land use

657 Since conversion the blockholders have each planted an average
423 of three and a half acres of high yielding rubber and some have
182 cleared a further two or three acres in preparation for further
planting.

311 Most households are interplanting their food crops with the
241 rubber seedlings as they say it saves time and effort if all crops
are on one plot instead of scattered as before conversion. Thirteen people reported that they have food crops growing on unconverted land outside their blocks. Six of these had blocks about twenty-five minutes' walk from the village, and have planted some food on clan land closer to home. Three of the others said that they intended to transfer their food crops on to the blocks shortly. Three people reported that they have coffee trees which were planted before conversion growing outside the block.

[614] The Ombi-Tara people intend to keep the clan land outside the converted area for use by future generations or by members of the present generation who wish to expand their holdings.

Residence patterns

657 Those people whose blocks are closest to the village have tended
423 to remain in the village. Those with more distant blocks have
182 either abandoned their village houses and moved to the blocks - six
families have done this - or planted some food crops on clan land
●[361] close to the village to avoid having to walk long distances to get
food.[1]

[592] The traditional Orokaiva custom of living in single family households has been maintained, with only four of the thirty-five households at Ombi-Tara containing more than one family. In three

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[1] Dakeyne (1965:136) notes that the Yega people moved on to their blocks soon after the Yega conversion scheme began.

657 of these four households one of the resident families intends to
423 build or is building a house into which it will move shortly.

182 Many who have remained in their village have erected temporary
592 shelters on their blocks in which they spend one or two nights at
a time. None of the Tara people has left the village, but no one
657 has to walk more than ten minutes to reach his block.

423 Five of the six men who have moved with their families on to the
182 blocks are living in two hamlets. In the first settlement, about
twenty-five minutes' walk from Ombi village, two men have built
361 houses on their own blocks on either side of the access road. In
addition, they have built a 'meeting house' in which passers-by can sit and chat, and a latrine. One is the son of the other's mother's brother.

In the second settlement, about forty-five minutes' walk from Ombi, three households are situated on one block. The three households belong to the blockholder, his sister's son (who holds an adjacent block) and his father's brother (who is not a blockholder).

The sixth man to have moved from the village claimed that one
[789] of the old men at Ombi was destroying his taro by practising
sorcery, and moved to his block, ten minutes' walk from the village, to protect it.

Apart from this last man those who have moved to the blocks are
[592] living in small kinship groups rather than as individual farmers
[484] each on his own block. In addition, each of the block residents
spent a considerable amount of time in Ombi village during our
[525] stay, particularly while gambling during the weekends. One brought
his family to Ombi after his wife had a baby and stayed for a few days in the house of a kinsman.

Although only six men have moved to the blocks, another twenty said they would like to do so in order to be able to work on their rubber away from the distractions of village life, like Council and mission work. Most of these people said that they were 'not allowed' to move. Some said it was Administration policy that people should stay in their villages and quoted particular officers (from two different departments) who had told them not to leave the village. Some said that they were not allowed to move to the blocks until they had a 'licence' (possibly a reference to the title document) or until all the people in Papua-New Guinea had done so, or until the local member of the House of Assembly had been told about it in the House. Some said that they should not move until the Administration told them.

Three people said the Administration favours villagers living on their blocks. Two of these do so and the third said he is waiting till the other villagers move before he moves.

657 The Local Government Councillor presumed the Administration
423 wanted people to stay in the village. He said that he would prefer
192 to live on his block but would not move as he might be gaoled for
361 doing so.[1] He had ordered two men from Ombi who started building houses on their blocks to stay in the village.

Administration officers said there was no longer an official policy on where people should live, but that individual officers had different ideas on the matter. As this is the source of much of the misunderstanding an official statement of policy through the Local Government Council may be helpful. Over half the people replied to the question 'where would you prefer to live - in the village or on the blocks?' by saying that whichever the government wanted they would do.

It has been said that conversion leads people to settle on their blocks, thus encouraging the breakdown of the village and lessening the attractions of village life for the younger generation, causing them to 'drift' to the towns. Several people, however, including one man who had intended going to Rabaul, mentioned that they preferred growing cash crops at Ombi-Tara to working for wages now that conversion has been introduced. It seems possible, therefore, that conversion may help to increase the attractiveness of the village rather than decrease it.

Social organisation

657 The land tenure system lies at the heart of social organisation
423 and 'may actually define the social and economic status of indivi-
182 duals in an agrarian economy' like that of Papua-New Guinea (Parsons 1963:4). Any alteration in the tenure system is bound to have far-reaching social implications.

Social changes occurring at Ombi-Tara are related not only to tenure conversion but also to the wider adaptation which occurs when a subsistence society comes into contact with the market economy. Some traditional practices are abandoned, as the initiation ceremonies, the taro festivals and multi-village feasts have

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[689] [1] The idea that a person may be gaoled for moving out of his village seems to come from observing other people in the area being gaoled under Native Regulation 101 (Native Regulations 1939 of the Territory of Papua as amended). This Regulation empowers the magistrate to declare any isolated group of less than three houses a 'Forbidden Settlement' and to direct the native inhabitants 'to remove to a regular village or villages within their district within a time to be specified by him'. Failure to comply with such an order carries a fine of not more than $2 or imprisonment for up to two months.

657 (iii) As was the case before conversion, a man whose crops stand
423 on another man's land retains his rights to those crops (in the local
view, but not in law).

[425] (iv) As was the case before conversion, each man is considered
by the villagers (but not in law) to have the right to extend his planting behind his present holding without consulting the clan leader or other members of the clan.

(v) It remains to be seen whether all villagers fully understand that all previously existing rights to land have been abolished since conversion, and whether in future some people may make claims on the basis of such rights.

[361] (vi) Residence patterns appear also to be in accordance with
traditional custom as those people who have left the village are
[178] living in hamlets composed of kinship groups and not as single
farmers each on his own block.

Promotion of agricultural development

657 Even if tenure conversion alters the tenure system less radically
than expected, it is still possible that it may act as a stimulus
423 to indigenous agricultural development. The acreage under cash
182 crops and labour productivity has increased at Ombi-Tara since
tenure conversion was introduced. The improvement seems to be due
433 more to the benefits arising from the consolidation of fragmented
holdings than to increased security of tenure since the land rights that Ombi-Tara people held before conversion were sufficiently secure to allow them to plant cash crops.

Consolidation of holdings has reduced the labour inputs required to establish cash crop gardens by reducing the time spent travelling between the village and food and cash crop plots. Whereas previously each man had relatively small areas of land on each plot, making extension of plantings difficult, all his land has now been brought together on one twenty acre block. The provision of easy access to all blocks has facilitated interpersonal co-operation particularly in clearing bush lands, and has enabled officers of the Department of Agriculture to supervise planting, pest control and general crop maintenance more efficiently. This increased assistance from the Department of Agriculture has played an important role in increasing the acreage under cash crops by providing essential technical and managerial skills. It is questionable whether conversion would have led to a greatly improved cash cropping performance if it were not accompanied by increased agricultural assistance.

Tenure conversion appears likely to enable economies of scale to be gained in processing, transporting and marketing of produce when the Ombi-Tara rubber trees come into production, thereby increasing labour productivity still further.

Appendix B

The Ombi-Tara environment and population

131 Ombi village is in the Kokoda sub-district about twenty-seven
[133] miles from Popondetta along the main Popondetta-Kokoda road. It
is situated on top of a plateau up a steep escarpment, about 250 yards from the main road. Tara is about two miles from Ombi and straddles the access road which runs through the converted land occupying part of two of the blocks. It was previously about two miles further away and was moved to its present site in 1964 after survey of the land to be converted was under way.

133 The Kumusi River flows close to the Popondetta-Kokoda road,
[361] about four hundred yards from Ombi village. Ombi village was formerly sited next to the river but was moved to its present higher location in about 1957, reportedly to escape the mosquitoes.

871 The nearest school is conducted by the Administration at Ajeka,
872 about two miles away. Most children of the appropriate age attend
school daily. Several of the older children board at schools in
[368] Popondetta while some children do not attend school at all.

366 The nearest trade store is at Ajeka but this is seldom open,
438 and most purchases are made from the store operated by a European
planter at Awala, a distance of seven miles. Clothing and larger
439 items are purchased in Popondetta.

The Omb1-Tara lands are part of the Higatura land system which
134 contains a considerable proportion of good land with reasonably fertile soils, suitable for many arable or tree crops as well as pasture.[1]

132 The most important features of the climate are the generally heavy rainfall, and the almost uniformly high temperatures and
137 humidities throughout the year. Rainfall ranges from 120 to 150 inches annually and may well be greater in the higher areas, including Ombi-Tara. These climatic features are reflected in abundant plant growth. At Ombi-Tara rainforest covers much of the surrounding land, which is marked by a series of steep ridges.

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[1] See C.S.I.R.O. 1964.

632 changes in rural areas. For a man to leave his
177 village and go to work in the town means long
separation from his family and from his kin,
632 an experience unheard of in the past. Separa-
464 tion from his relatives means that he may be
facing dangerous risks from the sorcery of
602 foreigners in an unknown country. This is one
361 reason why migrant workers tend to live in
[754] kin clusters in the towns. Unemployment, in-
adequate living quarters, low wages, the necessity for paying in cash for all goods and services, and the obligation to send cash gifts to relatives in the villages, all add to the town dwellers' difficulties.

121 The three areas to be studied in this book are:

1. The north coast of Papua, near Popondetta, inhabited by the Yega people.
2. Central Bougainville, near Kieta, inhabited by the Nasioi people.
3. Port Moresby — two indigenous communities.

These three areas have been selected because they are all experiencing rapid change. Moreover, they are areas of actual or potentially great economic development. The stresses and strains put on the traditional way of life in such circumstances are particularly severe; study of such situations may help to give students a deeper appreciation of the problems faced by the people of New Guinea today.

Northern Papua and Central Bougainville are rural areas where the inhabitants have a primarily subsistence economy basically similar to that of their traditional culture, but modified by the innovations introduced by Europeans and latterly by their own educated younger members. There are, however, important differences which are summarised below.

133 *Topography.* Northern Papua is a gently-sloping, almost featureless plain, covered by rain forest interspersed with grassland, traversed by a few braided streams and many small creeks. Central Bougainville is mountainous with peaks up to 7,000 feet above sea level. Steep, tree-covered slopes, rocky outcrops, and rushing streams which rise rapidly after rain are typical features.

614 *Social.* The social structure of the Yega is
613 localised patrilineal clans, sub-clans, and lineages, inhabiting a few square miles of land.

[P.3-B]

000 rates of pay than do the plantations. There is, however, disagreement between the indigenes and the mining company regarding the future distribution of profits from the copper.

361 171 Although there is a marked similarity in the structure of buildings in the two areas, settlement groupings are dissimilar, partly because of topographical differences but particularly as a result of the recent changes which have occurred in the Yega pattern of settlement.

121 The third area of study, that of the indigenous community in Port Moresby, is distinct. It has been included because more and more village people, particularly young educated men, are choosing to live and work in towns and it is rightly recognized that, although the towns contain only a small fraction of the Territory's population, the people living in them are the most politically sophisticated, vocal in their dissatisfaction of their present status and, of all the country's inhabitants, most susceptible to propaganda. The distinction is made in this section between those indigenes who are the traditional inhabitants of the land where Port Moresby now stands, and those whose lands are elsewhere but who now live and work in the town. It is this latter group that is classified as indigenous migrants.

[P4-B)

18: Dakeyne K-5 (1962-1964) 1969
OJ23 Orokaiva OJ23
Yega

714
142

[A villager shows off the fighting head-dress of his father. It is intricately made of boar tusks, shells, feathers, and hornbill beaks.]

THE YEGA OF NORTHERN PAPUA

131
36 THE Yega is a group of nearly 900 people
living in sixteen settlements, on an area of
[161] about twelve square miles, on the north coast
of Papua. They live on a gently sloping
alluvial plain between Mt Lamington and the
sea. Yega territory is bounded by one large
stream and crossed by several small creeks.
137 The plain was originally covered by mature
rain forest 100-120 feet high, interspersed with
elongated strips of grassland. Now, much of
the original forest has been cut down, and
secondary forest forty to fifty feet high has
132 replaced it. The climate is hot and wet
throughout the year (Köppen Af.) but there
is marked seasonality of precipitation. The
north-west monsoon, November to April,
brings two-thirds of the annual rainfall
(average 100 inches per year); July and
August with about four inches per month are
relatively dry. The temperature is over 80°F
on most days and rarely falls below 70°F on
the coolest night, but the heat is alleviated by
north-easterly sea breezes which blow during
the afternoon and evening throughout the
year.

175 The first reported contact between Euro-
177 peans and Yega was during an expedition
along the coast by the Lt Governor of Papua,
797 Sir William McGregor, in 1893, but the first
real step in the process of change occurred
with the establishment of an Anglican mission
177 school on Wasusu Point in 1909. From this
time until the outbreak of World War II,
464 Yega men began leaving their villages to work
466 [P.5-A]

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491
797
● 361
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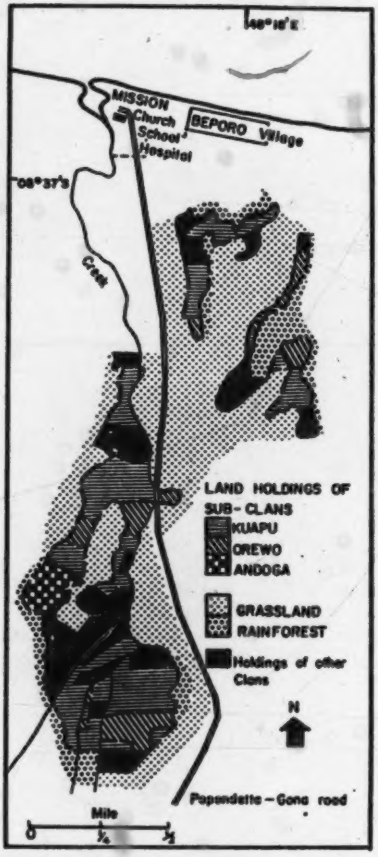
48°18'E
MISSION
Church
School
Hospital
BEPORO Village
08°37'S
Creek
LAND HOLDINGS OF SUB-CLANS
KUAPU
OREWO
ANDOGA
GRASSLAND
RAINFOREST
Holdings of other Clans
N
Popondetta – Gona road
Mile
0
1/4
1/2

Fig. 3. Main areas of subsistence gardens of one Yega clan (Kurou clan)

241 within his sub-clan so that all sub-clan mem-
423 bers may be found working land in close
proximity. This custom was necessary in the
613 past for mutual protection against raiders. It

[P 7-B)

[TEXT CONTINUED ON PAGE 8-B]

133
137
361

Fig. 4. Yega territory. Bepore Village and school in foreground. Light grey patches are grassland; patches of mature rain forest can be easily distinguished from the lower secondary growth

[P.8-A)

439 buy cheap cloth and durable iron or
178 aluminium pots at the trade stores. Although
every housewife now has two or three large
415 manufactured pots, she keeps them for cooking
252 the food for feasts. Most of the daily meals
[437] are still prepared in clay pots but few of these
pots were obtained by the old barter methods;
[431] most were obtained as gifts from friends or
relatives. At one wedding, for example, the
585 bride received fourteen clay cooking pots, in
431 addition to a large supply of mats, string bags,
enamel plates, and dishes: enough to last for
years to come.

ECONOMIC CHANGE AND THE PATTERN OF SETTLEMENT

178 A very close relationship exists between
economic change, particularly the planting of
● 361 cash crops, and changes in the pattern of
settlement. Although most development has
(173) occurred in the last twenty years, there is evidence,
supported by the oral traditions of Yega
elders, to show that some evolution of settlement
had occurred even before the first contact
173 with white men. By tradition the Yega
were sea people. This probably means that
361 they arrived as migrants and originally spent
most of their time aboard their canoes and
lived mainly upon seafood. They settled first on
three small islands, Baroda Deuga, about half
a mile north-east of Waususu Point (Fig. 9).
(133) These islands are today only a few feet above
high tide and are composed entirely of coarse

[P.12-A]

361
173 coral sand and lumps of dead coral. Although
[133] there are mangrove trees on the islands, there
would be no possibility of growing food crops
there. At some time well before the arrival of
white men, the Yega moved from Baroda
Deuga and founded a large village, Basabuga,
on the eastern shore of Waususu Point. In
Basabuga each clan was allocated a specific
[614] area in which family heads built their homes.
Probably there were only three original clans,
but these were joined at intervals by the ancestors
of the other five clans who now make
up the Yega parish. Basabuga is in an ideal
defensive site, protected on the landward side
by mangrove swamps to the south-east, and
on the south-western side by swamp filled depressions
running parallel to the beach. The
sea provided an escape route to the north.

361 By about 1910 when the first school was
begun at Waususu Point, some clans had
[871] moved eastward or westward and settled in
other coastal villages. In each village the male
361 members of a clan lived together with their
614 wives and children, and although there was
a good deal of inter-clan contact, the clan
village was the main social unit. The main
reason for the dispersal of clans from Basabuga
was probably population pressure but the enforced
cessation of inter-parish warfare undoubtedly
contributed. The movement westward
361 along the beach continued until about
1930. People were encouraged to move by the
increasing effectiveness of Government control
[657] and by the establishment at Gona Mission of
[797] a school and hospital staffed by Europeans.

[P.12-B]

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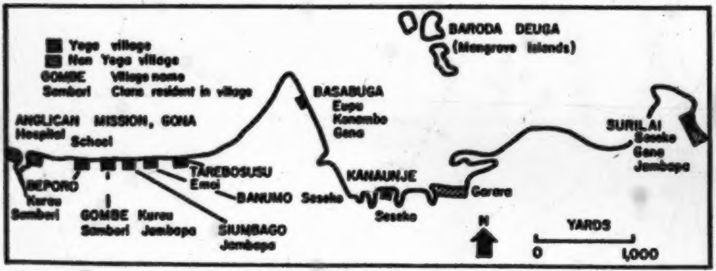
Yega village
Non Yega village
GOMBE Village name
Sambori Clans resident in village
ANGLICAN MISSION, GONA
Hospital
School
BEPORO
Kurau
Sambori
GOMBE Kurau
Sambori Jombapo
SIUMBAGO
Jombapo
TAREBOSUSU
Emoi
BANUMO Seseko
BASABUGA
Eupu
Kanembo
Gona
KANAUNJE
Seseko
Garara
BARODA DEUGA
(Mangrove Islands)
SURILAI
Seseko
Gona
Jombapo
N
YARDS
0
1,000

[P.12-C]

Fig. 9. Settlement pattern of the Yega in 1950

361 The new village sites also reduced walking
time to the gardens.

648 The war of 1939-1945 affected the Yega in
several important ways. Their territory became
722 one of the major battlefields of the Pacific
War. Every person migrated from the area
with the exception of one old crippled woman
who somehow managed to survive for eighteen
648 months in the bush. Almost all able-bodied
men served in the army or labour corps and
701 the women and children lived at another
722 Anglican mission about thirty miles to the
north. When they returned, they found all
727 buildings, and any belongings that they had
left behind, destroyed and most of their coconut
palms cut down or damaged by gunfire.
There were some compensations. The Aus-
727 tralian Government paid thousands of dollars
657 in war-damage compensation for all trees and
property but, more important, the stimulus of
177 travel, and meeting and working with Aus-
tralian and American soldiers, gave the younger
men in particular a broader view of life
which triggered off changes in their traditional
economy. In addition, the transfer of the
177 Administrative headquarters from Buna to
491 Higaturu resulted in the construction of a
major road to the port of Cape Killerton and
brought the Yega into closer touch with the
outside world than ever before. As a result,
361 between 1945 and 1950, about twenty families
left their re-built villages and moved east to
166 found the new village of Surilai at Cape Killer-
ton (Fig. 9). Men living at Surilai have since
[464] found regular employment on the Government
wharf at Cape Killerton.

178 Major post-war changes in the Yega eco-
nomy have resulted from their attempts to
433 increase their cash earnings. Before the war
464 many men worked as indentured labourers on
plantations or on the wharves at Port Moresby
466 [P. 13-A] [TEXT CONTINUED ON PAGE 14-B]

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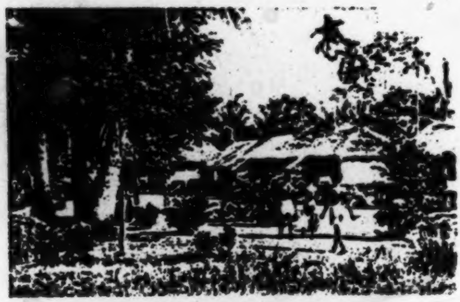

Fig. 10. *Scene in Baporo village. In left foreground are coconut palms. The tall slender palms behind the houses produce areca nuts, one of the ingredients of betelnut*

133
361

Fig. 11. *The new village of Onande under construction near the cocoa blocks five miles from the coast. (Picture taken in January 1962.)*

[P-13-B]

18: Dakeyne K-5 (1962-1964) 1969 OJ23 Orokaiva OJ23
Yega

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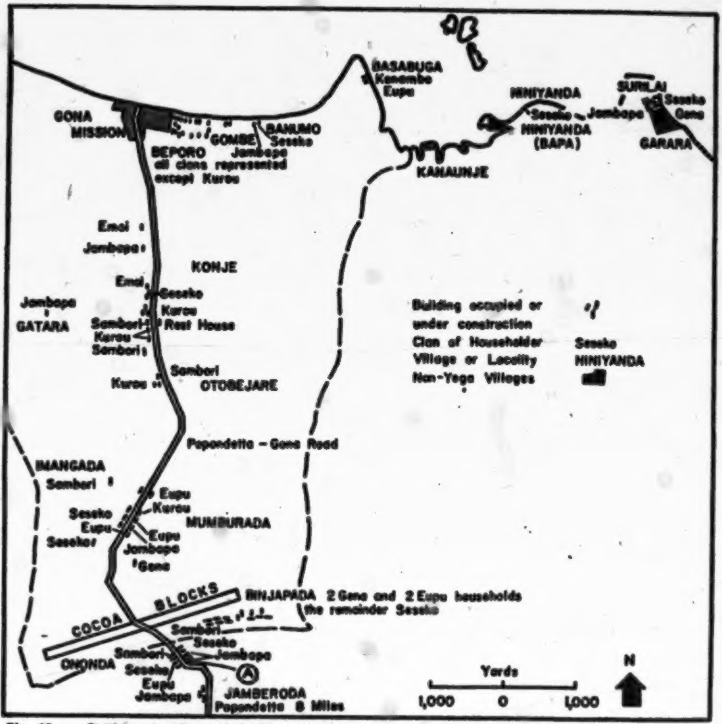
GONA MISSION
BEPORO all clans represented except Kurou
GOMBE
BANUMO
Seseko
Jambopa
BASABUGA
Kanambo
Eupu
HINIYANDA
Seseko
Jambopa
HINIYANDA (BAPA)
SURILAI
Seseko
Gena
GARARA
KAHAUNJE
Emoi
Jambopa
KONJE
Emoi
Seseko
Kurou
Jambopa
GATARA
Sambori
Rest House
Kurou
Sambori
Sambori
Kurou
OTOBEJARE
Popondetta - Gona Road
IMANGADA
Sambori
Eupu
Kurou
Seseko
Eupu
MUMBURADA
Eupu
Sesekor
Jambopa
Gena
COCOA BLOCKS
BINJAPADA 2 Gena and 2 Eupu households the remainder Seseko
Sambori
Seseko
Jambopa
Sambori
ONONDA
Seseko
A
Eupu
Jambopa
JAMBERODA
Popondetta 8 Miles
Building occupied or under construction
Clan of Householder Seseko
Village or Locality HINIYANDA
Non-Yega Villages
Yards
1,000
0
1,000
N

Fig. 12. *Settlement pattern of the Yega in 1964, showing recent dispersal of the population and the break-down of clan-based villages. House marked "A" is ringed in Fig. 11*

[P.14-A]

474 January 1951. The failure of this scheme
emphasises the important role of the individual
241 leader in any innovation in New Guinea.

An important modification to the residential
474 pattern resulted from the Agricultural Cooperative.
177 Not only was co-operation practised
in the gardens but co-operative theory was
571 preached as a Christian ideal in the churches
and taught in the schools and training colleges
797 of the Anglican Mission. The teachers emphasised
the practical advantages of living in
a large community; for example, co-operative
labour could be easily organized, social clubs
could function more readily and school,
church, and hospital would be more readily
accessible to the majority. Most Yega accepted
361 this view and, during 1953, many of them rebuilt
177 their houses in a planned rectangular
village, Beporo, close to the mission station
(Figs. 4, 12). Here there was a tendency for the
361 household heads of each clan to group their
dwellings together and to maintain the same
177 inter-clan relationships as had existed in the
571 smaller villages. Nevertheless, there was a
breakdown in the previously tight social control
614 over the location of dwellings. Some men
602 exercised this freedom by building away from
their clansmen but near to their wives' kin and
in some instances even sharing a dwelling with
them.

Since 1960, seven new inland villages have
361 been established along the road leading from
Gona mission to the town of Popondetta. This
movement inland from the coast was initiated
361 by the development of a cocoa-planting project
245 which is without doubt the most significant
change in land use to have occurred yet.
(311) In 1960 the old wartime road between Gona
[491] and Popondetta (actually the last stage of the
Kokoda Trail) was re-opened by the efforts of
[797] the Anglican missionary living at Gona. It
gave access to land at Ononda which in the
opinion of the District Agricultural Officer
(DAO) was suitable for cocoa. As the Yega
245 had previously made enquiries about planting
654 cocoa, the DAO now advised them to clear a
large area of rain forest and plant their cocoa
in a continuous strip, which would then be
sub-divided into individual blocks, rather than
in the small scattered plots which is the usual
pattern of indigenous cash crop plantings.

[P. 15-A]

245 By a fortuitous circumstance, the land selec-
423 ted was regarded by all Yega as communal
hunting land. It had belonged in the past to
[614] the Bowori clan, but when they were wiped
out in inter-parish warfare it had never been
[726] re-allocated among the remaining clans. No-
body, therefore, had to be compensated for
245 the loss. The Yega followed the DAO's advice
and over the next two years cut down a large
654 area of forest and planted shade trees and
657 young cocoa. In order to supervise this work,
the Agriculture Department built a small
village at Ononda to house a field instructor
and a group of trainees.

245 Many people came to believe that their
433 future prosperity lay in the development of
cash cropping. As the cocoa blocks were a long
361 walk (four miles) from their homes in Beporo
village, many decided to move inland; this
245 was a rational decision. An additional incen-
[484] tive was the development of the weekly market
at Popondetta. With the rapid growth of the
[443] town since 1960 there has been an increasing
361 demand for fresh fruit and vegetables. Many
443 Yega have taken advantage of this to sell sur-
plus produce for cash. Residence in the inland
438 settlements reduces the distance from the mar-
ket. By 1964, over half the population was
living in the new villages.

361 In addition to the dispersal of population,
the breakdown of traditional clan groupings
178 continued. The inland settlements are all
numerically smaller than Beporo and in all of
614 them the old homogeneity of clan membership
has disappeared. A man chose his house site
for convenience and access to his place of
work, rather than on the basis of his kinship
ties.

361 The most radical change occurred in the
establishment of Binjapada village. It is a
collection of fourteen households, spread for
over half a mile, along a narrow strip of grass-
361 land. Six of the occupants had been allocated
cocoa blocks in the near vicinity and four of
423 these men attempted to locate their houses on
the projected extensions of their cocoa blocks;
this represents the beginning of a dispersed
pattern of settlement foreign to the Yega tradi-
tion of clan-based clusters of dwellings. As no
boundary surveys were carried out, one man
located his house on his neighbour's block.

[P.15-B]

361 He has now cleared bush and planted gardens
423 all round and claims, by right of usage, a much larger area than was originally allocated to him. The establishment of freehold title must reinforce dispersal, so it is significant that in August 1964 seventeen Yega cocoa-block holders were among the first people in New Guinea to apply for freehold title. The parish elders did not oppose these applications.

Yega expectations in cocoa plantings as a
245 source of cash income have not been fulfilled.
458 The trees began to bear in mid-1964, at a time when, unfortunately, the world market was depressed. Growers received only three cents
[439] per pound for wet beans from a European-managed fermentary near Popondetta; by mid-1965 the price had fallen even lower, to two
245 cents per pound. The discouraging effect of such prices was reflected in the low production
433 of cocoa during the latter half of 1966, when forty-eight growers produced only 1,866 pounds of wet beans valued at $74.64, an average of under $2 per head. By January 1967, the well-cared for plantations of 1964 looked overgrown and neglected and it was obvious that apathy had replaced the early enthusiasm.

The Yega cocoa-growing scheme outlined
245 above well illustrates the conflicting traditional
178 and modern socio-economic attitudes commonly found in New Guinea today. Traditional aspects are:

245 178 423 a) The use of communal labour to clear the rain forest and the subdivision of the area among those who helped.

464 [476] b) The absence of any documentary record of the transference of cultivation rights to individuals.

c) The organization of group labour for certain tasks—individual right-holders to cocoa blocks were assisted by their kin in tasks such as cutting grass and opening the cocoa pods—and the subsequent obligation on the right-holder to repay such work by sharing his profits.

d) Personal control by each individual of the economic trees which he planted on his block.

245
177 Aspects which have little precedent in traditional custom but result rather from the acceptance of new principles are:

a) The systematic layout of blocks.

[P.16-A]

Before the eruption, a new type of village had been established in the Kokoda 657
sub-district, consisting of a large village square of neatly clipped grass, with houses
arranged in a single row along three sides of it. Although such villages have a 361
monotonous regularity and lack of individual character, Europeans think of them [363]
as being æsthetically attractive, and they appeal to the administrative officer's
sense of the fitness of uniformity in a well-ordered community. Attempts to
introduce such villages in the Higaturu sub-district had largely failed, and the
standard of housing was much lower. Further the people of this area tended to
live in small clan-hamlets and resisted propaganda for them to come together into
larger village groups. After the eruption, however, the general desire for new things, 177
the sense of guilt at having resisted such innovations before, and a feeling of insecurity
combined to make most of the people reconsider their earlier decisions. Although
the move was not quite universal, by far the greater proportion of people decided to
rebuild their homes in large village units situated close to existing or proposed jeep
roads, and on administrative advice decided to follow the Kokoda village plan with
substantially improved housing. Such a move raises numerous social problems.

The actual decision as to who should live together in a village group was by and 621
large easy to make. Mr. Plant's enquiry, referred to earlier, showed that individual
patrilineal clans are often segments of a maximal lineage, the other segments of 613
which live in different areas, and this finding accords with Williams' material. But
in a given hamlet there would be two or more clans, not segments of the same
lineage; and a number of hamlets occupying neighbouring ground would be considered
together as a single village-group. Sometimes the village-groups were
combined as a large area-group. Thus we have the hamlets Pengipe, Isivita,
Huworituru and Bosiseta combining as Isivita No. 1 village; Egaturu, Tambori,
Koropata and Kiorata as Tambori village; and Kakita, Hamamuta, Pija and
Popondota as Popondota village; and the village-groups of Isivita No. 1, Tambori
and Popondota, together with separate hamlets of Barewaturu and Kombeturu
constitute the area-group of Isivita No. 1. Just how far these groupings result
from administrative practice we cannot tell, but it is fairly certain that they represent
genuinely-felt units. This does not, however, necessarily apply to the combination [619]
of the area-groups into tribal groups. Though the people we are considering appear
to be one in language and custom, and to regard neighbouring groups as somewhat [101]
different, they are vague as to an over-all group name. Williams calls this group the
Wasida tribe; Plant considers the correct name to be Periho. Although I think
Plant is more correct than Williams on this point, it seems to me that the people
themselves do not attach much importance to such a name.

The village-group was taken by the people as the new unit of residence. The 621
earlier hamlets would take a side or section of a side of the village square, each clan 361
building its houses contiguously. This meant that the residential group increased
in size from units of 20 to 100, to units of 125 to 400. Further, the village-groups 731
were much closer together, sometimes now being in sight of each other along the

621 main road, or even facing each other on opposite sides of it. Although this is clearly
the wish of the majority of the people, it does not suit all of them. There is some
361 talk that it increases the danger of sorcery, and certain individuals fear that it will
731 mean an increase in the burden of responsibility of the village maintenance type.
Thus some hamlets have not joined in the general move, and others have split on the question. Another question that cannot be answered at the moment is, how far was the earlier hamlet system a result of tendencies towards violence and strife in the society, and to what extent will such tendencies be overcome or intensified by the new arrangements?

It is of course one thing to say that a hamlet or village group has land in a new part of the country suitable for their migration, and quite another to say that each individual in the group will find such a move to be the best. Looking at the matter retrospectively, it is now possible to see that many of the answers given to administrative enquiries were framed to assure the authorities that all would be well if they left the refugee camps immediately; everything was subordinated to this end.

423 The inheritance of land is mainly patrilineal; but a man may work his wife's
land, and even, with the assent of her relatives, inherit a share in his mother's land.
613 This means that individual members of a clan, instead of inheriting land jointly
[428] from a common ancestor, often inherit and claim land in different parts of the country
through matrilineal or marital influences. A clan, however, lives together and its members work land near their residence. Because of influences which lie outside the direct patrilineal line, or because of fragmentation, the person who has senior authority over this land may or may not be the genealogically senior member of
[559] the clan. At any rate, he is given a special title, *enda mamo*, or "father of the
land." If the clan finds it necessary to move its residence, it will also probably move its land-use area. This involves a change in the balance of land authority and the emergence possibly of a new *enda mamo*. This has in fact happened in several of the new villages.

At the time of my visit to the area in April, it was confidently expected that
731 once the people started building homes on the new sites, all would be well. In fact
361 the situation is much more fluid and unsettled. The Putemo people, for instance,
who had moved to a site almost contiguous with the magnificent new village of Sairope, had not yet settled questions of garden land. The village site was given to them by the Sairope people, but this meant removing themselves several hours away from the old garden lands, and they had not worked out to what extent they could claim land closer to them. In many cases individuals, say of the Popota hamlet, would agree to move with the hamlet. When they started building their home or inspecting the ground the real consequences of the move came home to them: it was not then merely an academic question. They considered alternative sites—their own near other new villages, their wife's, and their mother's. Often too the wife, on her return from Ilimo, would have something fresh to say about choice of site. Moves and uncertainty were frequent and it may be months before the final situation is satisfactorily sorted out. In such ways, incidentally, it is probable that new clans are formed

PREFACE

121 The following report presents data designed to be used in "A Comparative Study of Cultural Change and Stability in Displaced Communities," a project directed by H. G. Barnett. The report follows closely a list of topics specified as variables in the study. In a preliminary statement on the project, Professor Barnett (n.d.) states the reasons why the Orokaiva, living on the [731] slopes of Mount Lamington, were included in the project. In 1951, Mount Lamington erupted, some 4,000 people were killed, and the survivors were resettled under close governmental supervision. This resettlement, as a consequence of a natural disaster, makes the Orokaiva case comparable to the other 11 cases included in Professor Barnett's study. The focus of our attention must therefore be the social and other cultural consequences of this government-sponsored resettlement.

731 I should at once note certain differences between this Orokaiva case and most of the others included in the study. 101 Mount Lamington forms the centre of a rather populous district which is [133] segmented into very small units socially and politically, but which forms a definite unity in cultural respects. (See Map I.) [361] Differences in language, social structure, political and economic organization and material culture, in a wide area North of Mount Lamington, and included in the Popondetta, Sohe Popondetta and Saiho divisions of the Northern District, are so small as to be almost insignificant. Only one of the refugee camps established immediately after the eruption was outside this culture area, and its occupants were shifted back to the Orokaiva district within a few weeks. From that point onwards, people were no longer separated from their culture but only from their land. As resettlement proceeded, even separation from traditional land holdings was soon terminated, so that the typical "resettled" village, though in a different spot from the pre-eruption village, still had access to the same land holdings.

121 In these circumstances, many of the traumatic experiences which are the subject of the other case studies in this project are 731 not replicated in the Orokaiva case. There is no question, however, about the serious social consequences both of the eruption and of the large-scale government intervention that followed. To trace these consequences at the present time is no easy task. As all the Orokaiva returned to their own land a number of years ago, a great part of this report is an historical reconstruction and the Orokaiva are neither devoted nor accurate historians. Most happenings are covered over in their memory just as the jungle rapidly covers over past cultivations and past settlements. Some songs, some myths, and the harrowing personal experiences remain.

731 that the Orokaiva explained these cases not by sorcery (as they [753] regularly do) but by homesickness.

The administration, in any case, seemed to be concerned about the malaise of refugees kept in coastal camps. All Australian informants to whom I spoke agreed that it was this malaise (and pressure by the Orokaiva) which led to a shift of the Eroro Bay refugees to Popondetta at the earliest opportunity (in April). A few weeks later they were allowed to go to Irihambo, a new settlement at the boundary of Sangara territory. Thus, one of the variables of special significance in the comparative study of displaced communities--removal from the home territory--was of minor significance in the case of the Orokaiva. Almost as soon as the immediate danger of the eruption was passed, people pressed for a return to their home territory and this pressure was not [182] resisted for long. If the eruption had a lasting effect on Orokaiva norms of behaviour and belief, this was not due to changes of location, but rather to the experience of the disaster and the unexpected scope of Australian assistance, and to new residential patterns introduced when the displaced communities were resettled.

657 The government had long followed a policy of consolidating hamlets and villages, not only in Orokaiva territory but in all 361 parts of Papua. This policy existed long before the government began to pursue actively its present objectives of social and economic development. When I asked senior officials of the administration for the reasons behind this policy, I was always told that village consolidation made patrolling and the maintenance of law and order easier and that regulations concerning hygiene, housing standards, road building were more easily enforced. It was the practise, well before the eruption, to keep lists showing the names of all inhabitants of the Orokaiva district. These lists were subdivided into village lists; a patrol officer visited (and still visits) each listed village once a year and all the persons listed as living in that village must then report themselves present. Deaths and births and marriages are recorded. It seems to have been the practice for patrol officers to instruct groups living in small hamlets to join other village units. Thus, in Sivepe many amalgamations of population groups occurred over the years and the people claimed that all these amalgamations were made in response to government instructions. Even if this is not always strictly true, there is nothing novel in the pressure put upon Orokaiva after the eruption to go and live in consolidated villages.

On the other hand, there were several factors favouring such [731] a development. The first of these was the continued restriction placed upon residence near the mountain. Even after May, 1951, there were several thousand Orokaiva who could not return to their old village sites. The villages where they were settled were

657 either new or of far greater size than before the eruption. Some
361 of these still exist today and still stand out by their unusual size. When one finds a village with a population of over 200,
731 this is almost invariably (I know of no exceptions myself) a village set up near Mount Lamington after the eruption--either immediately after the eruption, such as the present Mamuni, Awala, Soroputa, Agenahambo, Koipa, or set up a few years later, when most of the restricted area near the volcano was made available for settlement, such as Hohorita, Kiorota, Bagavaturu, Kendata (see Table 2). These more recent villages are made up of people who, immediately after the closing down of the evacuation camps, were placed in resettlement villages such as Irihambo, Koipa, Agenahambo, Kongohambo and then resettled again closer to the mountain when this became possible. In all these cases, the unusually large size of the villages is due purely to government action.

The case of Sivepe, though atypical, may illustrate this. Before release from the Ilimo camp, it was arranged that the Sivepe people would be settled at Awala, which was on the main road and at a respectable distance from the mountain. The Awala people agreed to this; the Sivepe people agreed. Thus they went to Awala and the government intended that they should stay there in a large consolidated village. One of the two main clans now making up Sivepe expressed a strong desire to return home and, as Sivepe was outside the restricted area after May, 1951 (the boundary being at Kongohambo), no objection was made but the consolidation of Sivepe with another village was insisted upon. This did not bring Sivepe anywhere near the size of one of the major resettlement villages, but some measure of consolidation was achieved nonetheless. Here we see the operation of several administrative principles. First, we see the pressure towards large villages; Awala has 250 inhabitants even now; if Sivepe and other villages in the vicinity had been added to it, as had been intended, Awala would now have something like 600 inhabitants. On the other hand, Mr. Kaad, who administered this resettlement, evidently did not believe he should exert very strong pressure. He therefore allowed the settlement of Sivepe and several other villages between Sivepe and Awala. The one Sivepe clan which had stayed behind in Awala in 1951, returned to Sivepe a year later.

We may therefore distinguish two types of post-eruption settlements: (1) very large villages created with government encouragement; (2) medium-sized villages (generally still larger than pre-eruption villages) created with government connivance. What were Orokaiva attitudes to the necessity of this kind of relocation? I find this question hard to answer because the term "necessity" (employed in the questionnaire to which this report is the answer) does not fit what I understand to be Orokaiva logic. Settlements such as Irihambo, Awala, Kongohambo were certainly regarded as "necessary" for the mere reason that the government

657 (or in the case of Irihambo, the Bishop) had decreed them. Had
these people been Westerners rather than Orokaiva, they might have
361 asked themselves the question whether the decision of the government
731 to prohibit the Kongohambo people, for instance, to go and live
further East in their old villages was a reasonable one. However,
there is nothing self-evident in the asking of such a question.
Criticism of an administrative decision is, i.e., a calculation of
probabilities, fiduciary responsibilities and expediencies. For
the Orokaiva, the problem was not whether the government decision
was a "necessary" one, but rather: what was the most advantageous
action they could themselves take in the circumstances. The
advantages of going back to their old village sites were obvious.
[784] But these were clearly outweighed by two grave disadvantages:
first, the probability of punishment by Australian authorities and
secondly, the chance (to which I shall refer in detail later)
that the whole eruption might have been a punishment by the Christian
God for their earlier disobedience to government and Church demands,
and that further disobedience might elicit a further eruption. It
seemed foolhardy indeed to challenge both the government and the
mountain at the same time. In this sense, we may confidently say
that the Orokaiva felt the necessity of relocation.

133 Sivepe lies on an altitude of 1,300 feet, seven miles from
Mount Lamington. Although the mountain rises to a height of 5,634
[361] feet, most present settlements are on the lower slopes, rarely very
much higher than Sivepe. A wide range of annual and perennial
[241] crops, including taro, on which the Orokaiva depend, do not grow
well at altitudes much above 1,500 feet. Thus, the eruption has
[731] had no appreciable permanent influence on the location of village
sites. The restricted area is at present a circle of two miles'
[361] radius from the crater of Mount Lamington; there are not now, nor
were there before the eruption, permanent settlements closer than
four miles from the crater.

The Sivepe terrain (if I may borrow the terminology of the CSIRO report) is characterized by a gentle radial slope on wide planar ridges between the larger steep-sided streams flowing from Mount Lamington into the Kumusi River. Numerous smaller creeks, together with these streams, form an effective fine-textured radial drainage system. Drainage is facilitated, moreover, by the extreme porosity of the soil.

Sivepe (see Map III)[A] is on a soil association of the Awala
134 land system which has an 8 to 12 inch very dark brown topsoil.
Chemical tests suggest that these loams are fertile, rich in
nitrogen and phosphorus. The fine-textured subsoils range from 10
[823] to 22 inches in depth. Rimoldi points out that this dominant soil
type, which the Orokaiva call *mume* (a word whose principal meaning is night, darkness), is only one of five found in the district and distinguished by Orokaiva by colour, texture and moisture. The others are *hohori* (red), which is popular for cultivation if it is not sandy; *gindiri* (stony, with high sand fraction); *pusu* (clay) and *pegara* (swamp). Mume is the most widely used soil for gardens.

In contrast, Inonda (see Map IV)[B] is no more than 200 to
133 300 feet above sea level. It lies partly (to draw on the CSIRO report again) on the flood plains of the Girua and Sembogo rivers and partly in the moderately sloping foothills of the northern side of the extinct strato-volcanic Hydrographers Range. The Sembogo and Girua Rivers flow in a northerly direction draining from the Hydrographers Range and Mount Lamington respectively. They are swiftly flowing, rocky-bedded rivers which, together with their numerous tributaries, give the area a moderate to good drainage system. To the east the drainage system in the vicinity of the Embi Lakes has been blocked by recent volcanic activity and drainage is much poorer. A vast coastal plain between 20 and 30 miles wide stretches north-westwards from the Hydrographers for over 60 miles. Inonda lies at the southern end of this plain, about 15 miles inland from the coast.

Crocombe and Hogbin classify Inonda soils on the basis of
134 five soil associations listed in the CSIRO survey: (1) the Popondetta Association, with black to very dark topsoil underlain by yellowish-grey volcanic sand subsoil. The topsoil looks like

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A [See Cat. 116, p. End Map 3--Analyst]
B [See Cat. 116, p. End Map 4--Analyst]

361 In the period from January, 1951-1967, the location of the
villages now known as Sivepe and Inonda changed several times. In
[114] the Sivepe area settlements had always been unstable. Rimoldi
has made a valiant attempt to reconstruct shifts of residence from
the time of European contact to the present; involved though his
reconstruction is, it probably tells only part of the story. In
50 years, the groups now represented in Sivepe had between them
been involved in shifts of residence between a series of 14 village
sites within an area of about two square miles adjoining the Sohu
[657] River. It is clear that the government carried out some village
consolidations in the district after the second world war, but
before the eruption. Most of the people now living at Sivepe were,
at that time, shifted to a village called Pamba, which had been
occupied earlier by the Seho clan only. After the eruption, Pamba
was at first reoccupied, but soon the village was shifted almost
a mile away, to a place which was called Sivepe. This new village
(see Map V)[A] differed from the pre-eruption one in layout, method
of house construction and spacing of the dwellings. It conformed
to the model advocated by the administration and observed by the
refugees when they were at Wairopi and Ilimo. In 1965, Sivepe was
shifted to its present site, and higher building standards and
better sanitation were again introduced (see Map VI).[B]

Both these shifts were connected with topographical relation-
[578] ships and social relationships outside the village. The first of
them, in 1952, seems to have been precipitated by a quarrel between
[628] the Timumu clan of Pamba and the resettlement village of Kongohambo,
which then had a population of almost 1,000, over garden damage
caused by pigs. Sivepe was much farther away from Kongohambo than
Pamba. The second shift was in the opposite direction. It was a
move which brought the village closer to the road, closer to the
mission, and the reduced distance from Kongohambo no longer mattered
as this is now a village of average size, with which good relations
exist. The people who lived in Kongohambo in 1952 have returned to
their homes closer to the mountain.

These shifts in village sites are accounted for by almost a
361 superfluity of reasons. Rimoldi was told of almost all the shifts
657 he recorded that they were made upon the instructions of the
government. I was told of shifts that were made because of deaths
attributed to sorcery and because of quarrels between neighboring
361 villages which were too close together for comfort. I witnessed
[628] one shift after a death of an old man where sorcery was not
suspected (as he was old) but being unbaptised he could not be
[754] buried in the Christian cemetery which made people fearful of his
ghost. The population of this village shifted to nearby Hohorita,
[764] a move which was in any case favoured by the government. A reason
[775] that was also sometimes given was that the houses were all old and
the place was becoming unsanitary. A reason never explicitly given,
but perhaps as important as any other is the Orokaiva's dislike for

A [See Cat. 116, p. End Map 5--Analyst]
B [See Cat. 116, p. End Map 6--Analyst]

361 cultivating gardens that are more than a mile or so away from his
village.

When Rimoldi made his careful notes of cultivated gardens,
241 these seemed to be predominantly in the Northeastern part of the
311 village domain. These gardens are ordinarily fallowed for eight
years or so and then cultivated for one season. The gardens in the
Southwestern part of the village domain were undoubtedly being
cultivated shortly after the eruption; they are again being cultivated
today. It therefore seems to make sense that after the eruption
people were living in Pamba, in that part of the domain and that
the new Sivepe is again in that area.

731 Inonda experienced three shifts since the eruption: first
to the vicinity of the airstrip (1951), then to the village
361 described by Crocombe and Hogbin (1955), then to the village where
I myself stayed (established 1964; see Map VII).[A] The pre-eruption
village was just behind this new village, again suggesting an
orderly exploitation of garden land. In 1964, Inonda returned to
garden land that had been fallowed since the eruption. People told
me that before shifting to the present site, they had to walk much
too far to their gardens.

While the layout of Pamba was traditional--with the houses
361 close together and little space between the rows--both post-eruption
657 settlements of Sivepe and all the four post-war Inonda settlements
followed what one may call the Australian standard plan: two fairly
regular parallel rows of equidistant houses facing each other, with
a few houses joining the two rows, thus forming a quadrangle, and
a wide field in the middle, used for playing soccer and basketball
and as a separation of the two "halves" of the village which tend
[364] to belong to different clans. A modern village will contain, in
addition to residences, privies for each family, while some have
[345] built a hall for the women's club, sponsored by the government.
Inonda built a very stylish one, using as a floor a slab of concrete
[575] which the Americans laid down during the war. Sivepe got no further
than the foundations, after which a quarrel blocked progress. In
addition all villages contain a number of arara or jataka--covered
platforms where men sit and receive visitors. Many villages, including
[591] Sivepe, still have a bachelor's house. Typically, each house is
occupied by a two-generation family comprising no more than one
married couple. A stream is always close to the village.

The change in village layout as between Pamba and the two
later Sivepe villages must be discussed in a little more detail as
the eruption was clearly influential here. The Australian government
has long been concerned about village layouts; this interest went
beyond consolidations and included the improvement of housing
657 standards, village sanitation and roads. We find Wilfred Beaver,
in the Annual Report for 1914-15, already claiming that he had
364 "insisted on these three essentials in village life," in the

A [See Cat. 116, p. End Map 7--Analyst]

657 Kumusi Division in which both Sivepe and Inonda are situated. It
364 would be wrong, however, to imagine that the tidiness which will
strike a modern visitor to Orokaiva villages may really be ascribed
to resident magistrates and patrol officers. Col. Kenneth McKay
who visited these villages in 1906 reported that he saw village
grounds absolutely bare of grass, being swept so clean that a man
might literally eat his dinner off it (quoted in Monckton, 1922:
[462] 131-132). The sweeping of village grounds as a feminine duty is,
indeed, already a subject of Orokaiva mythology.

Beaver, in the report already cited, sets out his concept
364 of village improvement as follows: "In the old days, doubtless,
361 the people were careful enough not to leave food refuse about the
village for fear of sorcery, but a good cleared space around the
outskirts of the settlement was beyond them. There is certainly a
danger that in maintaining this cleared area the people may be
tempted to build their houses closer together, but I have not yet
found this tendency." (1916: 49). Today, this cleared space around
the outskirts is very sparing, though the privies that have
become customary tend to be a few yards behind the houses and
clearance extends just beyond them. There have, however, been
interesting changes in housing architecture, to which I shall refer
in due course. One significant change in the village "eco-system"
has been the gradual elimination of the pig complex.

342 The Pre-contact house was invariably built with a pig
enclosure so that man and pig spent the night together. The
231 Australians lost no time in imposing the taboos of their own
657 society: they did not object to human symbiosis with dogs; they
even encouraged symbiosis with fowls but regarded symbiosis with
pigs as the height of barbarism. The new house designs made no
provision for them, so that they were left free to sleep under
231 the houses, or elsewhere, as they wished. Since the Local
Government Council was established in 1956, a vigorous campaign
657 was conducted to eliminate them altogether. Thus, Inonda had no
pigs in 1966, except for one which belonged to a Seva man who had
left it with an Inonda man "to look after," and a very little one
that had just been caught in the bush. When the new Sivepe was
established in 1965, it was decided that this would be a pigless
village; the remaining pigs were left in the old village. In
practise, they wandered through the surrounding bush and gardens, so
that it became useful to shoot them all as quickly as possible.
Other villages, however, had not progressed so far in the direction
of the pigless village ideal. Hohorita was indeed nearly pigless
when I visited, but this was perhaps because a feast had been held
there very recently.

657 Belshaw makes the following remarks about village development:
"Before the eruption, a new type of village had been established in
361 the Kokoda sub-district, consisting of a large village square of
neatly clipped grass, with houses arranged in a single row along

657 three sides of it. (Administration) attempts to introduce such
361 villages in the Higaturu sub-district had largely failed and the
standard of housing was much lower. Further, the people of this
area tended to live in small clan-hamlets and resisted propaganda
[731] for them to come together into larger village groups. After the
eruption, however, the general desire for new things, the sense of
[784] guilt at having resisted such innovations before, and a feeling of
insecurity combined to make most of the people reconsider their
earlier decisions. Although the move was not quite universal, by
far the greater proportion of people decided to rebuild their homes
in large village units situated close to existing or proposed jeep
roads, and on administrative advice decided to follow the Kokoda
village plan with substantially improved housing" (1951: 245).

At the time of Belshaw's research the only resettled areas were those West of the Waseta-Sairope line, and the villages Belshaw visited appear to have been in the Sairope area. As it turned out, the Kokoda village plan was in fact adopted in a great many villages in the Higaturu sub-district, though by no means as an immediate result of any decisions that may have been taken at Ilimo. In the Sivepe area, it seems clear that the people's first plan was to return to Pemba and only when Pemba became uncomfortable, partly through quarrels, partly through damage done by the eruption and partly through administration pressure, did they decide to build a new village in the new style. Within a radius of three miles from Sivepe, there are still a considerable number of old-style villages even today: Hamburata, Garombi, Torogota, to mention only three larger ones. Others, such as Duve and Binduta, were beginning to adopt the new style only around the time of my visit in 1966. In 1951, only those villages in which the government took a strong direct interest, such as Awala, Kongohambo, and the villages visited by Belshaw (but I could not enumerate them all) adopted the Kokoda style.

There is also a minor incompleteness in Belshaw's data when he refers to the neatly clipped grass and the rows of houses as being innovations due to the Kokoda influence. The neatly clipped grass was in evidence in 1906 and the regular rows of houses were reported by F. E. Williams (1930: 68). This was, admittedly, reported as late as the 1920's but the layout is consistent with the less explicit descriptions of Orokaiva villages given by Walker (1901) and by Monckton in his descriptions of his battles with the Dobudura and Sangara. The novelty of the Kokoda plan lies rather in the wide central field, the house design and use of materials, and the sanitation.

Undoubtedly, credit for the introduction of the plan must be given to the Ilimo experience but the spreading of the plan over the majority of Orokaiva villages must rather be ascribed to the growing influence of the Local Government Council in the 1960's.

657 Sivepe, as it happens, was one of the villages in which the plan
361 was pioneered.

Finally, I should refer briefly to communications. One
[491] general effect of the eruption was a shifting of villages to the side of jeep roads, as Belshaw also mentioned. The administration favoured this trend which greatly facilitated patrolling the villages. The Orokaiva always seem to have a liking for the Australian-built roads; Monckton already refers to their fondness for travelling over it and explains it gave a sense of security against possible attack by hostile tribes. Though this can hardly be the reason today, the liking remains. Over the last few years, the roads have begun to yield economic and practical advantage: trucks collecting coffee visit the villages and occasionally people can pick up rides from passing vehicles. Speed of travel is also improved for pedestrians. I shall discuss ideological aspects of this liking later.

872 The accessibility of facilities has also improved since
797 the eruption. Sivepe children now all go to the school at the Saembata mission station which teaches up to Standard 6. Inonda children were first introduced to schooling after the eruption when the Seva people joined them accompanied by a mission teacher.
[368] After this mission teacher retired, Inonda was dependent on a school at Hohota. Only a few children went to this school because it was six miles away, across a deep river, but today, after the building of a new road and a bridge, and the latest shift of Inonda village, this distance has been reduced to about three miles and school attendance is regular.

The eruption changes the centre of gravity of the district.
368 The pre-eruption settlements of Higaturu and Sangara contained all
731 governmental and mission facilities, including the hospital and the schooling past Standard 2. Sivepe's link with these facilities was by a bush track running through Isivita. Today, Popondetta is the centre, but the hospital is at Saiho, the senior college near Agenahambo, the Local Government Council in the new Higaturu, near
[491] Agenahambo. Thus the main road to Popondetta, now greatly improved, has become the main artery. Nonetheless, for those who have to walk, the bush tracks from Sivepe to Saiho, Awala and Agenahambo are still important thoroughfares used by many dozen people every day.

Section 4: Resources

423 I have already referred to the main resource, owned by the Orokaiva, which is their land. The Sivepe people own only about
311 480 acres, almost entirely gardening land, and very little of their land is in virgin bush. This small area is useful for certain

423 "look after" the land was passed on to the daughters' sons, who
613 now hold it. This arrangement is something like a perpetual,
inheritable usehold, but should the lineage of the useholders die
428 out, the land would revert to the Tandai'undi, as Crocombe and
Hogbin point out. Furthermore, should the present occupants decide
to settle elsewhere, the land would again revert to Tandai'undi.
They have residuary rights and, as Crocombe and Hogbin again point
out, they are not alone to have them, for another neighboring
group (the Urio people) likewise have residuary rights. In these
circumstances it is understandable that, for instance, the people
of Inonda would be most concerned if they were forced to settle,
even temporarily, away from their own lands.

We find the same pattern in Sivepe. First of all, the blocks
of land over which individuals had perpetual useholds contained,
in almost every case, some blocks which had not been inherited
through the patriline. Secondly, even those blocks which had been
so inherited were often held in common with others belonging to
a different village and nowadays counting themselves as belonging
to a different clan, even though agnatic links could sometimes be
731 traced. On the day of the eruption, or within the four days
following it, both Sivepe and the closely allied villages were
361 evacuated, and they were together at Ilimo. When the camp was
423 disbanded, a large resettlement village was established in Kongohambo,
on land belonging, at least in part, to Sivepe villagers of the
Seho clan. Almost 1,000 people were settled there so that garden
land in the vicinity of Kongohambo became very highly prized.
Meanwhile, the government desired to resettle the Sivepe people in
Awala. It seems that the Sivepe people did stay in Awala for
three months, after which the Jegase and Timumu clan groups
received permission to return to their land in Sivepe. The third
Sivepe clan group, Seho, stayed on in Awala, but planted gardens
in the Sivepe area.

At this point, the Seho people evidently felt reasonably
secure; a year later, however, they joined the other clans in
Pamba and together built the new village of Sivepe. When I asked
Seho informants why they had returned they told me it was because
of fear of losing their land. Now this danger did not come from
the other Sivepe clans, who were mostly affines of the Seho people
and whose return to their home village evidently caused no great
concern to the Seho people in 1951. The danger came from Kongohambo
which adjoined the Seho lands. Some Kongohambo people had residual
rights over some of this land; if the Seho people did not return,
they would undoubtedly have had some trouble in getting it back.

The government, though aware of this possibility, had
[657] imagined that Sivepe people would not be too concerned, seeing
that they had been offered garden land at Awala. Government reasoning
can be traced from the discussions by Belshaw and Keesing and also
from a long memorandum by Plant (see bibliography), a public servant

731 with some knowledge of anthropology. All these authors, following
F. E. Williams, had the impression that Orokaiva clans are corporate
361 groups and that the local clan groups are segments of these. Thus,
Plant and the others imagined that the Jegase of Sui (near Awala)
423 would share their land without reservations with the Jegase of
657 Sivepe, that the Seho of Awala would share their land with the Seho
of Sivepe, and so on. The Orokaiva, however, knew that their
position in the resettlement villages would be weak indeed unless
they retained their own village holdings. This weakness will
become more apparent from my discussion of the resettlement village
of Mumuni in a later chapter.

628 The closely allied villages, therefore, are not only a source
of cooperation but also competition. Seho returned and had no
423 trouble reasserting their rights; they accepted with good grace
that their neighbors had built their village partly on Seho land
and that the mission station had partly been built on it, but they
jealously guarded the rest of their holdings. Let us now consider
the specific variables listed in the previous section.

628 Transactions between members of closely allied villages
occur in kinship and friendship roles; decisions affecting the
villages as corporate groups are taken at a meeting where all adult
men of the affected villages are present, and have a right to
speak. Visits between the villages by individuals occurred almost
every day; formal meetings involving Sivepe and one of the closely
allied villages occurred, for one reason or another, about once a
month. The occasion might be a death, a bride price, a minor
dispute, some government or council or church project. Contacts
were equally close between young and old, males and females.
Meetings occurred in the villages, or, more casually, outside
[578] them. There is much affection between people of closely allied
villages and one finds that disputes between them, though giving
rise to a great deal of heated oratory, are not rashly allowed to
get out of hand. The disputes I witnessed were all resolved amicably
and serious breaches carefully avoided. On the other hand, neighboring
[574] villages were always treated with much reserve. Before the eruption,
they never ate together except under the formal conditions of a
feast; even today, when a feast is held at the mission station for
all the villages in the parish, each village sits apart in a separate
group. When people from different villages eat together in a formal
feast, each village house has its own little group of guests, who
are either kinsmen or in a partnership relation. Transactions between
such persons nonetheless have a greater fiduciary element than
[754] transactions with other outsiders. Sorcery between closely allied
villages occurs, but only, so I was told, by the employment of a
professional sorcerer from a more distant village. No Garombi man
would act as sorcerer, so I understand, to kill a Sivepe man, but
men from Isoge or Kendata could be found for such a service.

CHAPTER VII: Mission Welfare Efforts

Section 1: Mission and Community

797 The mission at Sasembata formed a kind of community of its own.
From the ground plan of the mission station (Map XI)[A] it will be seen
361 that it differs somewhat from a village layout. In order to grasp
its essentially Orokaiva nature, I shall have to compare the station
with others I saw: at Hohorita, at Waseta, Isivita, etc. The Church
and cross always occupy a central position. The houses at Hohorita
and most other stations are in two facing rows, just as in an Orokaiva
village, but at Sasembata the central field is so wide that this did
not develop. The position of the church in the centre rather reminded
me of the position in which Orokaiva build their feast houses; these
are always in the central space facing away from Mount Lamington with
a sizeable open area in front. The houses tend to be a little bigger
than those in the villages. Since the craze for timber houses started,
the mission lost no time in replacing its own teachers' houses with
timber ones. Materials for these were always supplied by villagers.

875 It was traditional for villagers also to supply teachers with
land for growing taro. At Sasembata, the mission found it hard to
425 get this land; it would be lent from year to year, but never, as the
797 head teacher would have liked, on a permanent basis. The Papuan
priest was rather put out over this and talked about leaving, for that
reason. This difficulty over land was not, as the head teacher
supposed, a sign of meanness, but rather of the continuing power
struggle between people and mission.

797 This power struggle is best understood as a variant of the kind
of rivalry that exists between any two villages, except that the mission
station was a village of a special kind. Between the time it was
first founded (in 1945) and the eruption, the staff was entirely
[731] Papuan. The eruption led to no defection but to a strengthening of
the bonds between church and people, partly because of the Orokaiva
[784] interpretation of the disaster (which emphasized the powers of the
Christian God) and partly because of the interpretation of mission
operations in the affected areas. After 1951, the station and the
school were much enlarged, and a European head teacher and a European
nurse were assigned to Sasembata. These white missionaries would
negotiate directly with the village men and obtain what help they
needed--labour, materials, land--in exchange for their educational,
medical and religious services. In 1955, a Papuan priest was
attached to Sasembata. He gradually gathered round him a number of
teachers from his own language area (the coastal Motu language) and

[A] [See Cat. 116, p. End Map 10--Analyst.]

CHAPTER VIII: Selection of Emigrants

At the time of the eruption, the whole of the population fled
731 from the volcano; those who wished to stay behind were persuaded to
leave by village constables when the area surrounding the mountain was
declared "restricted" by regulation. The whole of this population, of
the affected villages was placed in evacuation camps and, in general,
it was again the total population of the pre-eruption villages that
was transferred to the resettlement villages established in and after
May, 1951.

Recruitment to these villages was therefore non-selective and
621 by government order. The amount of land available at the new location
and the clan affiliation of the groups relocated were the main criterion
657 in allocating particular groups to specific resettlement villages. The
allocation was done by a government officer who took into account the
preferences expressed by community leaders as between the alternative
resettlement villages available. It is hard to say at this stage just
how much self-selection occurred, but the evidence suggests that in
1951 there was a very limited amount of self-selection. The situation
in the camps was a very disturbed one. Undoubtedly, when two groups
joined together and told Mr. Kaad that they wished to form a village
together, Mr. Kaad would agree to this, but a heavy burden of decision
fell on the government. After 1951, a good number of relocated groups
founded new resettlement villages, mostly with prior government permission.
In these later settlements, self-selection played an important part.

When self-selection of resettlement sites occurred, the following
● 361 were among the reasons for choice, as is demonstrated from evidence at
[628] Sivepe and Hohorita: proximity to land to which the group has good
title; greatest possible distance from hostile groups from which
aggression and sorcery may be feared; closeness to groups with which
a historical connection exists. The Hohorita people, though from a
wide range of clans, all have their origin in a fairly compact cluster
of Sangara villages. This has kept them together as a reasonably
solidary village. In Sivepe, we witnessed the exodus from Awala,
because of land problems; the exodus from Pamba, because of troubles
with neighbouring Kougohambo, to a place one mile removed; and more
recently, the exodus of small groups from Binduta and Garombi, in
both cases on the basis of historical affiliation. In the case of the
Binduta families, this was an agnatic or clan linkage; in the case of
Garombi, the links are far more complex and will be discussed under
the heading of "Internal Influences."

The village group was the organisational unit of settlement.
621 No larger cohesive group exists among the Orokaiva, though some
resettlement village groups were much larger than pre-eruption ones.

PART II: INTERNAL INFLUENCES

CHAPTER I: Size and Distribution of Relocated Community

Section 1: Statement of the Problem

121 This report is intended to answer one general problem: what has been the effect of collective evacuation and resettlement upon one Orokaiva community ((Sivepe) directly affected by the eruption of Mount Lamington. In order to establish this effect, we are studying Sivepe as well as a control community (Inonda) that was not evacuated and resettled. In the first part we have made one assumption which obviously can never be accepted without question and which, in fact, we shall find to be partly false: namely, that the two communities can be regarded as homogeneous. We have tended to speak of "Sivepe" and "Inonda" as though internal variability could be ignored. At the same time, I did stress at various points that I thought one of the differences between Sivepe and Inonda might be that in Sivepe acculturation had proceeded relatively homogeneously whereas in Inonda the range of variation was wider.

A hypothesis of this sort can be tested only by a systematic study of internal variation in the two communities. In this and the following chapters I shall introduce a number of classificatory principles, commonly used in social anthropology. After classifying individuals in Sivepe and Inonda by these principles, I shall be able to compare the two communities in respect of internal patterns. The first principle to be chosen is that of spatial arrangement. Closely associated with this are the principles by which the Orokaiva themselves view their communities as subdivided into bounded social groupings. My procedure will be, first, to state what are the Orokaiva principles of classification, which apply to both communities alike. Secondly, I shall set out how the two communities under consideration can be classified according to these principles and in what respects they exhibit similar or dissimilar patterns. Where patterns are dissimilar, an explanation for the differences will be attempted and I shall consider whether the post-eruption experiences may have been a factor.

Section 2: Spatial Arrangement

621
361 The Orokaiva concepts connoting residence units that may be found in a village are mainly three: da--village, bande--house and

361 *bende*--"side" of a village. The term *da* is applied to the total set
of houses built in a single jungle clearing. The layout of a *da*
621 usually resembles that given in Maps V-VIII.[A] There is an empty space
in the centre, which is faced by houses, usually arranged in something
[364] like parallel rows. The centre is called *araha*.. In the traditional
village there is an area, immediately surrounding the *da* which is
given over to sorcery and where the rubbish is thrown. This is called
isapa, a word also meaning "small" and it is indeed only a narrow
strip, outside which the village gardens begin. The word *da* is applied
equally to a large village and to a settlement of two or three houses,
as long as it has the features mentioned. The house or *bande*, if it
is a permanent dwelling, is part of a *da* and mostly is placed on one
of the two sides or rows (*bende*), though as the village plans show,
houses are also built to complete the rectangle.

The ridgepole of a house tends to be erected along the line
361 made by the row or *bende*. The floor plan is rectangular, as shown in
342 Diagram XII.[B] The long side of the rectangle faces the *araha* and the
door is usually in front in the centre. The house tends to be divided
into two halves, a front half and a back half, the division being a
wall built directly below the ridgepole. The front half tends to be
a space where people sit and talk and where visitors come in the
evenings, while the back half, containing the sleeping rooms, is
rather more private and not usually for visitors. The back portion is
often divided into two separate rooms. I have already referred briefly
to some buildings that are not residences: the small ceremonial meeting
places that are called arara in Sivepe, jataka in Hohorita or by either
name in Inonda; the lavatories, the chickencoops (very often, indeed,
the same structure); the feasthouses and visitors' sun shelters, which
are temporary; and the women's club houses which are a novelty. None
of these are usually placed in the regular rows, though sometimes
meeting places are built next to the house of the owner.

Villages are rather compact, the houses being built at a
361 distance of nine yards, and this distance is precisely measured in the
[177] Australian spirit of military regularity. Everyone is always within
easy shouting distance of everyone else; nothing in the village goes
unheard, unobserved. The two "sides" are under constant observation
of one another. Movement between the houses of one side is much less
conspicuous, however, than the act of crossing the *araha* to go to
the other side. One never does this unless one has a serious reason.
Movement between houses of the same side occurs continuously for
ordinary gossip.

Inonda formed one *da* after some battles early in the century
361 (Crocombe and Hogbin, 1963: 14-15); at the time of the eruption there
731 was one *da* with 48 people and the village stayed together, with a slight
decline in population (to 45 in 1962 and 41 in 1967) and a decline in
628 the number of houses from 12 in 1950 to eight in 1962 and seven in
1967. When the Sewa people joined Inonda after the eruption, they did
not actually, according to informants, live in the same *village* as the

A [See Cat. 116, pp. End Map 5-End Map 7--Analyst]
B [See Cat. 116, pp. End Map 11(A)-End Map 11(B)--Analyst]

361 Inonda people. They built a da of their own at a very short distance
from Inonda; both these da were very close to the airstrip and
731 abandoned now. Although these two da were less than a hundred yeards
628 apart, they were still two socially distinct units. It sometimes
happens, as in the case of Hohorita, to which I shall return, that
two such contiguous villages are later joined together into a single
one, but this is a deliberate act, involving the slashing down of the
intervening brushwood and, ideally, also the removal of houses which
would run through the centre of the combined village. If Sewa people
had taken up permanent residence in Inonda, such fusion would have
occurred, no doubt, but instead they went back to their own land.

Sivepe, with its present composition, goes back in time no
621 further than about 1948 when the village Pamba was built, combining
361 an older Sive and a now defunct village Pusahambo. The census list
current at the time of the eruption still shows the population of the
[162] two villages separately, though in fact they had already fused.
(Sive 58, Pusahambo 41) I do not know how many residential units there
were then, but in Old Sivepe, in 1962, 23 were counted, plus one
belonging to the anthropologist. At that time, the population was
120. When I arrived in Sivepe, the new village was only partly
completed. Some people lived in new houses; some had not yet built
or finished their new houses, but had shifted their old houses from
the old to the new village. Others again were still domiciled in the
old village, but had declared their intention to start building in the
new one "soon." At the time of my arrival, six of the houses in the
old village were still inhabited; nine months later, this number had
dropped to three, two of the houses being inhabited by widows living
alone, while the head of the sole remaining family had almost completed
[231] his house in the new village. At the time of my arrival, a good number
of the village pigs were still being kept in the old village (these
animals being rigorously barred from the new one) but by the end of
my stay, these pigs had all gone to the bush. New Sivepe, at that
time, had 25 dwelling units, plus the one rapidly nearing completion.
The total number of dwelling units included in the study (28) accommodated
137 people. There was occasional discussion of further increments in
the population, as families from Garombi were considering moving in
and would have been welcomed.

At no time since the eruption did Sivepe exhibit rigorously the
361 village plan that was regarded as ideal. In Old Sivepe 18 out of 23
houses were arranged around the araha in standard fashion, while another
five houses had been built outside the village proper, along the old
[426] jeep road, separated from the rest of the village by a gully. The
land on which Old Sivepe was built was lent by three individuals from
different kinship groups; residents chose their house site irrespective
[423] of their possible ownership of land on the village site. On the other
hand, the five houses built outside the village proper were all on
land owned by the residents. Though some of these houses were as
much as four chains away from the village proper, they were still

●361 conceived as part of it. (People spoke of the residents as living "in Sivep," not "in Orinasusu.")

In the new village, the number of houses built outside the regular rectangular plan was even larger. Of the 25 houses, only 14 were strictly where they were supposed to be; a further three dwelling units might be considered "in line" if the term were used very broadly, but eight formed a line of their own, roughly parallel to the two planned rows, with doors facing towards the araha. This line was on more elevated ground than the rest of the village, and about [182] two chains behind the nearest planned row. The decision of all these householders to build outside the regular rows is in part explainable by features of the kinship structure, to which I shall refer later. We should not ignore, however, certain historically and psychologically determined attitudes which resisted the regular village pattern. In this connection it is significant that in only five out of 11 cases the irregularly placed houses were built on land to which the occupants had some special claim. Houses that were out of line were at first all of much lower standard in size and construction.

Because of the very close scrutiny the inhabitants of a village give to one another, as well as the numerous regulations that are now being enforced in villages, Orokaiva feel the threat of regimentation implicit in the large resettlement villages. Even the small distance of two chains provides a valuable measure of detachment for people many of whom used to live in much smaller villages and managed to evade most of the modern regulations. One man ceded to pressure and built a house in the "line" in which he placed his daughters-in law and their offspring but he stayed in the old house on the hill. There was much criticism too of the unwillingness of one man on the hill and the owner of the detached house No. 8 to clear the tall weeds between their houses and the rest of the village. I feel sure they let these weeds grow with the specific purpose of emphasising the distance. It was generally agreed (and confirmed by Mr. Waddell's data) that these two men were among the most diligent gardeners in the village, so that "laziness" provides no explanation.

[342] A further dimension of freedom is always available to Orokaiva by the institution of the "garden house." A garden house is a rough shelter where people can sleep in the heat of the day while they are at their gardens. Some garden houses, however, are good, sound structures suitable for semi-permanent residence. Sometimes people stay at them overnight, sometimes for several nights in succession. This is done at times when there is a great deal of garden work urgently needed; by staying at their garden houses people save time and avoid distractions. It is also done when there has been a quarrel and people like to stay out of sight for awhile; finally, it may be done simply for reasons of privacy. Some men stay at garden houses far more frequently than others. One Sivepe man is staying there constantly and has no village house at all, nor did he have one in Old Sivepe. Generally, stays of more than one week at one time are most unusual. Most people never stay away for longer than one night.

361 Comparing Inonda and Sivepe, we notice that Inonda follows more closely the spatial arrangements that are considered ideal for modern villages, but that Inonda has remained static in size for a number of decades. Sivepe shows irregularities in spatial arrangement, but has rapidly increased in size in accordance with Australian ideas of village development. The fusion of 1948 doubled its traditional size, while a lineage and a local clan group were added since. These increments have as yet been imperfectly absorbed.

Section 3: Social Groups

621 Within a village, two kinds of kinship group larger than the
elementary family may be distinguished, namely the javo wahai (clan)
592 and the hae (lineage, or plant emblem group). We may also distinguish
two kinds of residential group, the occupants of a bende or side and
616 of a bande or house. On the nature of the clan I shall be brief here,
reserving detailed documentation for my doctoral dissertation. It
614 seems to me mainly a political unit, held together by--in some but not
all cases--belief in common descent from a single patrilineal ancestor,
by the common name (javo) by which they call themselves and which they
call out when slaying an enemy or a pig or in other moments of great
stress, by the recognition of obligations towards and claims upon
others who bear the same clan name. Rimoldi (1966: 33) is right when
he calls the Orokaiva clan "only a social category."

The word hae means "plant emblem," but the word is also used
613 to denote collectively all persons sharing the same plant emblem.
The clan name (javo wahai) is transmitted only patrilineally, but the
transmission of the hae is more complex. A person regards his hae,
which may be any plant or part of a plant, or another natural substance,
as a part of his own identity. He may respect it in the manner of a
totem but such avoidances seem always to have been to some extent a
matter of personal choice. (Williams, 1930: 127-218) The hae is
used in a number of social contexts as a mark of identity. Williams
seemed to believe that a hae was the distinguishing mark of a clan,
but later investigators (Crocombe and Hogbin, Rimoldi) take it to be
the distinguishing mark of a lineage.

It is indeed true that when a man has a certain hae his children will also use it. The children will also, on occasion, use the hae of their mother, especially when they are on the land of their maternal kinsfolk. There are other, more idiosyncratic forms of inheritance: one man uses the hae of a hereditary friend when he is on the land which passed into the possession of his family through that friend. Normally, maternal hae are not inherited further; no person uses the hae of his mother's mother, or of his father's mother. In these circumstances it is reasonable to assume that a man who has the same hae as oneself is of the same blood. This is not to be understood

614 621 affiliations has changed. In 1962, when Rimoldi did his survey of the community, not a single Sorovi family had arrived. Moreover, he showed four residences and one bachelor's house as attached to the Timmu clan, a clan name that was not quoted to me. The same families still inhabit Sivepe (except for one old man who died) but they now call themselves Jegase. (This fusion between Jegase and Timmu occurred, to my knowledge, only between the Sivepe local clan groups.) In 1962, Jegase had eight residences and one bachelor's house, so that the overall pattern in these four years has remained much the same except for the fusion of the clans. Bachelors of the enlarged Jegase clan shared one bachelors' house in 1967, seeing that the clans had [731] been joined. The major change between the time of the eruption and 1962 was the migration of three families from Binduta to Sivepe, all classified as Jegase in 1962. Just as it was possible to change the clan name of the entire Timmu group by a simple decision of the two local clan groups, so also it was possible to change the clan name of individuals simply as a way of emphasising common loyalties which developed out of a combination of cognatic links and contingent circumstances. (This pattern is characteristic of New Guinea patrilineal clans in many areas and has been discussed recently in an excellent paper by J. A. Barnes, 1967.)

361 614 616 One striking characteristic of the village layout of New Sivepe is that all the Seho houses are grouped together on the same bende while the other bende of the main village is entirely made up of Jegase houses. Sorovi, the clan which migrated to Sivepe from Garombi shortly before my arrival, has mainly settled along the brow of the hill behind the village, probably partly because that area happens to be owned by a Sorovi man (who continued to live in Garombi), so that in case of a quarrel, nobody could question their right to build on that land. The other houses on the brow of the hill were built by Jegase people who preferred to keep out of the regular two-line system. People often talked about their intention to build all the houses along the two regular lines eventually.

The basic structural feature of New Sivepe was this dualism, expressed in the division between two "sides" each comprising one clan. This kind of village plan has been studied in much detail by Lévi-Strauss [582] under the term "diametric structure" (1958: 150). An essential part of this structure is that each side is exogamous but that the two [601] sides intermarry with one another. It is thus in Sivepe where people living along the same side address each other always by consanguineal kin terms whereas people living on the opposite side tend to be addressed by affinal terms, with the obvious exceptions. The reserve and formality observed when people cross the araha to go to the other side is easily explained when it is remembered that on the other side they will meet affines.

It will be noted that this pattern is very much less clearly discernible in Old Sivepe where the two-clan system was not yet worked out. On the other hand, I have found it in several other resettlement

361 614 villages (Garombi, Soroputa, Hohorita). When New Sivepe was built it had become a familiar procedure and was simply copied from other villages. It is an interesting adaptive institution, and the Orokaiva answer to Australian pressure towards the building of multi-clan villages.

616 [177] Belshaw clearly stated the problem that was involved: "How far was the earlier hamlet system the result of tendencies towards violence and strife in the society, and to what extent will such tendencies be overcome or intensified by the new arrangements?" (1951: 246) It can now be seen that diametric structure was the Orokaiva answer to this danger of violence and strife. While affines were separated by the araha, the araha was widened so it could be used as a playing field, as happened at Sivepe but by no means in all the villages.

614 613 Rimoldi classified the Jegase clan into four lineages (Berekipa, Sesewopa, Arehu, Bebehupa) and one extinct lineage (Hambai). He further distinguished two Timumu lineages (Hajejopa, Pekuma), which should now be added to the Jegase list. Certainly, each of these six groups have common plant emblems not shared by the others; the lineages are therefore each part of a distinctive plant emblem group. Families of the same plant emblem group make no particular efforts to reside close together; the social functions of "lineage" are mutual assistance and close solidarity. The importance of the concept of "lineage" varies from clan to clan; while Jegase has this relatively long list of lineage names, Seho has no such list. Conversely, while Jegase has no common ancestor upon which all members of the clan are agreed, Seho has a human eponymous ancestor about whom a myth is told. Seho also has a totem animal (Garo = wallaby) while Jegase is actually the name of the totem animal recognised by all its members. It is a small flying insect present in great numbers around the taro leaves. It is possible, however, to classify Seho according to groups which share plant emblems and investigation shows that both clans equally are the result of fairly recent fusions; the lineages or plant emblem groups, however, are of somewhat greater antiquity. I saw evidence of the creation of new plant emblems and of the dying off of old plant emblems, so that even the plant emblems do not survive indefinitely. But Orokaiva rightly regard the plant emblem as sign of a relationship of greater antiquity, for clan allegiance can be changed in a day whereas the plant emblem group can always be traced back beyond human memory, i.e., beyond 50 years or so.

621 614 Inonda, in the same period, has developed in the direction of a one-clan village. In 1951, out of 12 households, eight were of the Andiriha clan and three of Jego'undi. In 1966, the wife in this remaining household had died and the widower, with his four children, moved into an Andiriha household. As in Sivepe, many of the people now calling themselves Andiriha were not born with that clan name, but took it after settling in Inonda. Crocombe and Hogbin divided the Andiriha local clan group of Inonda into four "lineages," for which they quoted, in each case, a single plant emblem (1963: 17). They

796 The same pattern is found in the dancing which occurs nightly
177 before a major feast is held or before certain initiatory rites (like
the kere) are concluded. These are now referred to as "practises,"
[535] even though they are undoubtedly ritual acts in their own right. It
is also significant that the Orokaiva seasonal rites have been fitted
in as part of the Christmas and Easter observances, apparently as an
exotic appanedage, but in fact as a means of preserving traditional
religious obligations, even though in a changed form.

657 The same service of two masters is sometimes seen in the secular
sphere. People built lavatories, on official instructions, long before
[514] they dared to use them (for fear of sorcery). At Kendata, an hour's
[754] walk from Sivepe, I saw a village with new houses, built on the govern-
ment's instructions, but I was told nobody lived there except when
[361] there was a visit from the patrol officer. There are many such villages
in the Managalasi district. Here, government instructions are being
complied with but customary patterns have persisted. In Sivepe, not
very much show needed to be put on for the patrol officer. The place
was cleaned before he arrived, of course, but not significantly more
so than happened every week.

123 It is true that certain things were concealed from me in Sivepe,
but these fell largely into some simple and reasonable categories:
secrets known only to initiated men, secrets known only to members
of a family or of the Seho clan. It was not a practise of the people
to pretend to adhere to a custom they had abandoned or to pretend to
881 have abandoned what they were still practising. In the early days of
our stay, this did happen; it took some months before we discovered
that girls were secluded upon their first menstruation and then ceremonially exhibited. We were told this custom no longer existed. But then,
we had referred to the custom with reference to what Williams said
about it; and in that form, perhaps, it was not or no longer practised
[841] in Sivepe. Later, I was told that if the ceremony was not performed
girls could not control their menses; there would be no way of stemming
[783] the flow of blood and everything would be polluted. Thus, the ritual
has persisted. Whether full-grown girls, completely naked, are carried
through villages at the present time I very much doubt (viz Williams,
1930: 207). I was told that these customs lasted until the second
534 world war and then were abandoned. But I found the word "abandoned"
always a dangerous one; the calling down of spirits with bullroarers
782 in preparation for a feast (viz. Williams) was also, according to
Sivepe informants, an "abandoned" custom; yet it happened in both
178 Inonda and Urarituru (a mile from Sasembata mission station) in 1967.
It was true that it had not been done in Sivepe for some time--not
since the middle fifties--and that there was no immediate intention
of doing it again. On the other hand, Sivepe knew the use of bullroarers as a means of calling down spirits which would then be
present at a feast and give this feast magical potency. For the time
being, Sivepe people evidently feel that this procedure is unnecessary
for the achievement of their immediate ends but it is still part of the
store of available possibilities should a need appear to arise.

CHAPTER X: Esprit de Corps

621 The problem of developing group consciousness in a new village,
created by aggregating the population from several villages in one
731 place, is a very considerable one under Orokaiva conditions. Each
village group tends to be a tight unit and it is a long time before a
feeling of unity will develop between the groups thus thrown together.
In a place such as Hohorita, which consists of the remnants of about
12 villages, the creation of an *esprit de crops* (in Linton's sense,
1936: 92-94) is a lengthy and hazardous business.

I was able to observe the same situation in Sivepe in 1966,
though on a much smaller scale. Sivepe, as I mentioned before, consisted
of a core of people who lived in Pamba before the eruption and two
groups who arrived since, one from Binduta in 1956 and one from Garombi
in 1966. The extent to which these groups have been "integrated"
into the village will appear at once if one looks at the spatial
[361] arrangement of the village. As I pointed out, the ideal plan of this
village was an arrangement of two parallel facing rows. Now all the
long-established families, with one exception, followed this plan,
but none of the new arrivals did. The Garombi arrivals built on a
piece of land just above the village, on land owned by a Sorovi man
who stayed behind in Garombi. The Binduta arrivals built next to the
Garombi ones, on attractive sites overlooking the rest of the village.
None of them followed the house plan decided upon by the rest. Thus
they gave all the appearance of a group apart, and the symbolic
significance of such behaviour would never be lost upon the Orokaiva.
When asked about this arrangement, people would describe it to me as
temporary.

621 In the daily presentations of food between residences, these
families would most often send food to one another, rather than to
[431] other families in the village, but this was natural, as their own
mutual ties were closest. At the same time, I recorded a reasonable
number of gifts travelling from the top of the hill down to the village
and conversely; there was certainly no rigid separation there. A
number of kinship and friendship ties existed between the new arrivals
and the older families; these ties were fostered by regular exchange
[578] presentations of one sort or another. I have referred to one conflict
between a Garombi arrival and a woman from the centre of the village.
This was an isolated case, as there was no sign of conflict between
the groups, nor did this flare-up lead to continued bad relations.
One could say that an esprit de crops was gradually forming, and that
the merger looked satisfactory.

621 On the other hand, the hazards were obvious when one looked
at the settlers from Binduta. When conflict developed, as in the
684 attempted rape case, the man from Binduta was in a weak position.

621 Naturally he was angry that his wife had been molested; his younger
brother who was rather fiery and quick to fight, was angrier still.
684 They both found themselves isolated as the kinsmen of the assaulter
took the opportunity of expressing their heart-felt views about the
two brothers, especially the pugnacious one who had successfully raped
a young Seho woman earlier that year. Both brothers said they would
go back to Binduta and the younger man actually did so. This shows that
their position in Sivepe was still somewhat unstable.

One of the objectives Sivepe had during the year 1966-7 was
657 to win a prize for the most improved village. This prize was awarded
621 by a committee of councillors and paid out of government funds. The
eagerness to align all the houses in two rows was partly due to this
361 desire to win the prize, though this was not the only motive. In
these circumstances, it was certainly evidence of esprit de corps to
fit in with the village plan and the objective of winning the prize;
it was also evidence of a lack of esprit de corps to ignore the village
plan altogether and build houses of inferior design in places where
they were extremely conspicuous. Yet this is what the immigrants from
Garombi and Binduta did. Lawrence, and the others who were keen about
village improvement, accepted this situation with much tolerance,
though Lawrence did go up to the Garombi houses one morning to talk it
over. No doubt he received assurances that something would be done;
the discussion was amicable enough. Yet this instance shows that the
amalgamating of villages poses organisational problems which place a
burden upon everybody: upon the old residents who must be tactful
and upon the new arrivals who will long continue to feel insecure.

CHAPTER XI: Epilogue--The Case of Hohorita

Section 1: Comparison Between Resettlement of Sivepe and Hohorita

731 123 My subject of study obliged me, both in Sivepe and Inonda, to inquire repeatedly into the state of affairs in 1951. My informants showed only limited interest in this line of inquiry. Robert, in Sivepe, even began to tease me by composing a song about what he considered to be an oddity of mine; every second line in this song (which he improvised as we walked along the road) began with the words "iji tiri pejetei" (the time when the volcano blew up)--I knew that from that time onwards I could never use this phrase without looking a little ridiculous. Such levity would have been unthinkable in Hohorita. For most Hohorita people, the time of the eruption marked the death of some, or many, of their closest relatives.

731 [165] In the files of the Department of District Administration I saw the official estimate of indigenous casualties in the eruption (Table 1).[A] The toll of the dead from the Sangara tribe was evidently established by taking the total resident population of the Sangara group of villages (1964) and subtracting from that total, 170 known Sangara survivors. To these figures, 800 "Andemba dead" must be added as these were also Sangara. According to these figures, 94% of all Sangara died in the eruption. I have already pointed out that most of the survivors either came from villages lying at the boundary of the devastation area or happened to be away from home when the disaster occurred. They escaped to Cape Killerton, were placed in an evacuation camp at Oro Bay, shifted to Popondetta and in May, 1951, were able to settle at the Northern edge of Sangara territory, in a village called Irihambo where they found themselves under the close personal care of Bishop Hand who encouraged them to build a fine new church. The Bishop's purpose, as he explained to me, was to give this minute remnant of the powerful Sangara tribe a sense of community, some hope in life. [621] [361] [425] It was the people who chose the site for the village; the Bishop hoped that later on, it could become a centre for cocoa production as climate and soil suits this crop very well. At that time, neither the people nor the government seemed aware that the land occupied by the Sangara was no longer in law their property.

425 657 The whole block North of Irihambo as well as East of it had been bought by the Crown around 1910, with the intention of encouraging sugar plantations there, but this plan was stopped by sugar interests in Australia. In the middle 1950's, a new plan arose to use this extremely fertile area for cocoa plantations. Most of it was settled in 1959 by Australian ex-servicemen, financed by a Credit Board (Howlett, 1965). As this plan was in its initial stages, it was discovered that the Sangara people were on the land and, in law, were

A [See Cat. 116, p. 205--Analyst]

425 trespassing there. Bishop David recalled, in my interview with him, how amazed the people were that the land was no longer theirs: "What 657 is this business of our land being sold? Our fathers sold it; we should be able to get it back." In spite of the Bishop's protests, the people had to leave their new village. They then moved about two [361] miles closer to the mountain and to the centre of their traditional land holdings and chose the site of Hohorita. (The Irihambo village used not only Crown land but also the land of a planter, Mr. C. E. Searle, who tells me he never objected to the presence of the village. The situation is illustrated on Map XIII.)A

The shift from Irihambo was a gradual process, during which 361 several groups set up new villages independently. Today, the population 657 of Irihambo is dispersed over six locations: first, two large villages, one behind the other, which have now virtually fused into one and together are known as Hohorita; immediately to the side of this, a mission station, with a church built of bush materials, similar to the one at Sasembata, but not of the superior standard achieved at Irihambo; finally three smaller breakaway villages, called Sombou, Kakita and--again--Irihambo. Though Hohorita people today are not ready to admit it, they must have been very angry when they were told their Irihambo land was to be occupied by white ex-servicemen. They pulled down the beautiful church at Irihambo, much to the Bishop's chagrin.

Under the impact of the Higaturu Local Government Council, Hohorita nonetheless gradually assumed the character of the other modern resettlement villages; by June, 1967, the biggest of the breakaway groups had joined the main village, which no longer looked like two separate units but had been spatially integrated; the houses were being aligned and modernised; in other more fundamental respects the [177] Sangara people had become rather rapidly acculturated. By the criteria used in the present study, acculturation had progressed rather more [731] rapidly than at Sivepe, though also more unevenly. In many respects, Hohorita had more difficult problems to surmount than Sivepe: the death toll had left the tribe virtually leaderless; the resettlement village was made up of the survivors of a dozen villages or more, which made it rather heterogeneous; land titles were far more confused than before the eruption; the establishment of an esprit de corps required the forgetting of deep traditional intervillage antagonisms; a deep sense of insecurity had been caused, first by the disaster and the deaths and later, probably, to some extent by the failure of settlement at Irihambo.

731 It was the general hypothesis of this comparative study of ten displaced communities in the Pacific that displacement would lead to 177 accelerated culture change in some directions. This hypothesis was tested by using, in each case, a control community, similar to the relocated community but lacking the experience of relocation. In the [121] case analysed in the present report, the experience of displacement at Sivepe was comparatively mild in that the people soon returned to their traditional land holdings and formed a village identical in personnel

A[See Cat. 116, p. End Map 12--Analyst]

Section 2: Physical Environment

131 The present territory of Hohorita stretches from near Mount
Lamington (an elevation about equal to that of Sivepe) down to Double
133 Crossing, which is about 600 feet above sea level. Rainfall at the
top of the territory may be close to that of Sivepe, but further down
132 it decreases--though I doubt whether it would fall much below 150 inches
per year anywhere on Sangara territory. The land yielded much the same
wild and cultivated crops as in Sivepe. Before the eruption, the
361 concentration of population was entirely at the higher reaches of this
territory, while the lower parts were used for hunting and other
subsidiary activities. Those who survived the eruption because they
were away from their villages were often hunting on this lower land.
Today, the pattern of occupation has shifted. The lower part of the
territory, near the new villages, is intensively used while the more
elevated land is used a little less and often for coffee rather than
subsistence crops.

731 The eruption has made minor changes to land contours: due to
the floods, the watershed of the Ambogo River was gouged out forming a
number of pools of stagnant water which formed a breeding ground
for mosquitoes and leeches. These pests are blamed on the eruption by
the local people. On the credit side, certain varieties of bananas
and pumpkins, planted before the eruption, had the opportunity to
grow wild during the year the land was unoccupied and are now thought
of as having been brought to the district by the eruption.

162 The total Sangara population today would be about 472--of which
350 live in Hohorita and the rest in the three other villages. The
161 total land holdings of this population extend over 3.5 square miles--
an average of about 135 per square mile. This places the Sangara in
a somewhat superior economic position to Sivepe, which has to support
at least 180 persons per square mile on land of the same quality. It
must be remembered that prior to the eruption, the Sangara population
was six times as large as it is today--so that Sangara must have
suffered a chronic land shortage. All the neighbours of the Sangara
are agreed that they were very warlike and dangerous enemies; they
probably were in frequent need of extra gardening land. Today, they
have enough land not only for subsistence gardening but also for a
somewhat larger cash-cropping programme than is generally found in the
Saembata district.

The present site of Hohorita (see Map XIV)[A] developed in several
621 stages. First the Horeopa clan, which had the greatest number of
361 survivors and therefore achieved dominance, shifted to the front part
of Hohorita village in 1956. The mission station was established
next to the village, separated from the village by a small stream.
By 1958, all the Horeopa were settled in houses in the new village,
together with the Oripa clan whom they had asked to join them while
all the other inhabitants of Irihambo had shifted to the new mission

[A] [See Cat. 116, p. End Map 13--Analyst]

621 station. The Horeopa leader, who was the owner of this land, then
invited these other clans to come over and make Hohorita into one
361 united big village. When the clans came over in 1959, they followed
the same pattern as the Sorovi immigrants followed in Sivepe: they
arranged their houses so as to maintain, in a subtle but unmistakable
way, their own identity. They formed in effect a second rectangle
which formed a harmonious continuation of the first rectangle but which
was separated by just half a chain. In 1966, the front and the back
half of Hohorita held separate feasts, each inviting a different
village. In 1967, the councillor made plans to clear the gap between
the two halves, remove the two old houses which emphasised the separation
and build new houses in the cleared area to join the rows together.
Around this time, the Sombou people began to establish themselves
in Hohorita, leaving their old village behind. I think it was they
[764] who filled the gap between the rows. The councillor had long been at
pains to close down the small villages of Sombou and Kakita and Sombou
[775] was finally persuaded after the death of an old migrant who had remained
a pagan. As he could not be buried in the Christian cemetery, and
people did not feel disposed to carry out the full involved ritual to
placate the ghost, they preferred to shift their village. (They thought
that pagan ghosts are far more dangerous than Christian ones.)
361 Hohorita, like most resettlement villages, lies along the main
road to Popondetta, 11 miles from Popondetta, seven miles from Saiho
368 hospital, three miles from the Higaturu Council chambers. The school,
conducted by the mission on Hohorita station, offers an education to
the end of Standard 3.
621 The two feasts held in 1966 were intended to introduce into
Hohorita the pigless era advocated by all councillors. I arrived a
433 month or two after the feasts and by that time two very small pigs had
appeared which were there for a special reason I have forgotten.
434 Sombou and Kakita still had a normal complement of pigs. Coffee was
[231] a somewhat bigger enterprise in Hohorita than at Sivepe. The trees
were much better looked after, and there were far more of them. Every
[245] man had his coffee garden and an income of $100 per annum from coffee
was normal. Young trees were also being planted at a much faster rate.
[166] Compared to Sivepe, there were very few wives whose husbands were
permanently away working. The reason for this was that there are a
number of plantations quite close to Hohorita and those who needed
to work to pay off bridewealth, etc., could do so without going too
far afield. Money to pay taxes and other regular outgoing expenses
464 would come from coffee. Men who were able to find skilled jobs,
clerical or professional work usually had their wives with them. An
167 important resource of Hohorita, not shared by Sivepe, is the availability of good jobs within a reasonable distance; the fact that Hohorita
families do not break up in the same way as Sivepe ones indicates that
such separation is probably economically motivated. It is necessary
for a young man to earn his trophies, so to speak, which in the modern
world means money, but if he can do it without a prolonged absence
from home, he prefers staying home.

521 of them made frequent visits to Popondetta and there met urbanised
Sangara. A group used to meet in the hotel for what were often
political discussions arising out of current events and rumours. This
emphasis on the political and ideological reminded me of what I had
seen among the Maori, the Indonesians and what is reflected in recent
African studies: the kinship universe is crosscut by other ideas
presupposing a political centre, centralised power, fundamental social
and economic changes. The presence of Papuan public servants made
[474] much difference here. For instance, nobody in Sivepe, discussing
savings accounts, would have thought of telling me that there are
54 cooperative societies in the district only four of which are
Savings and Loan Societies. This group knew the pulse of the Northern
District in concrete factual terms while Sivepe relied on disconnected
phenomena that happened to drift into their ken and from which their
suspicions and hopes shaped an image sustained by the stories of their
councillor.

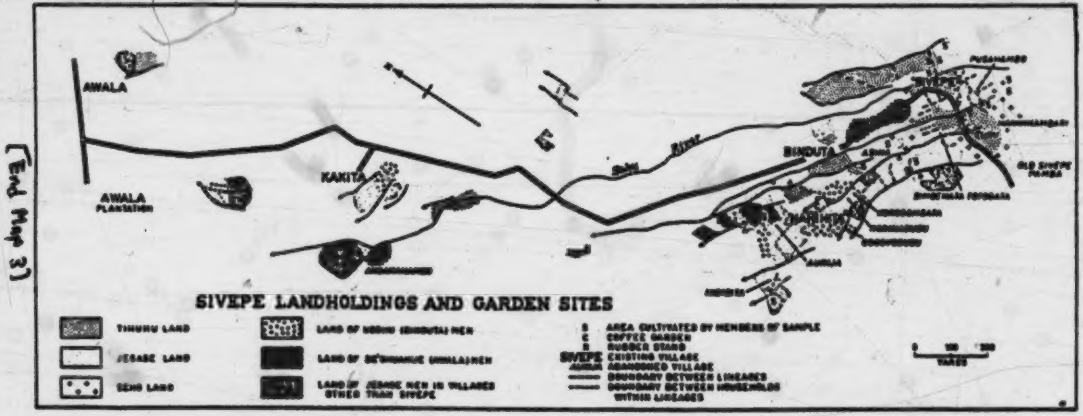
Section 5: Internal Influences of the Eruption

361 Compared to the two sample villages, Hohorita is a more densely
concentrated settlement, with 348 inhabitants in 41 houses. When I
621 was there, there were still two clearly separated araha; the dominant
clans of the front village section were Horeopa and Oripa; in the back,
[161] Besupa and Sehopa. But within each section, there was no striking
separation of the clans into "sides" as in villages in the Sasembata
district. House distances were as at Sivepe.

614 In contrast to Sivepe, there is no tendency for clan groups to
fuse, 12 independent names being given to me. This number can be
621 somewhat reduced if we ignore those clan names represented by a single
family where the wife belongs to one of the major Hohorita clans--the
wife is then the "sponsor," in Fischer's sense, of the household.
Thus, two of the clan names given to me belonged to immigrants from
the Sasembata district who had married into Sangara. For all practical
purposes their allegiance lay with the clan of their wives. The other
clan names were all Sangara, representing survivors from numerous
pre-eruption villages.

592 In household composition, the smaller settlements of Sombou and
Kakita rather resembled Sivepe, but in Hohorita three-generation
households were more common and bachelor's houses were not found.
[597] Furthermore, many children were left parentless through the eruption
and these were adopted by Hohorita households, especially by childless
ones. As a result, childless households in Hohorita are far rarer
than in Sivepe. A considerable number of marriages and remarriages
[423] occurred immediately after the eruption. The sharp drop in population,
furthermore, left Sangara with plenty of land for the survivors, so
that 25-35 year age group is far better represented in Horotia than in
Sivepe.

Map III


AWALA
AWALA PLANTATION
KAKITA
River
BINDUTA
SIVEPE LANDHOLDINGS AND GARDEN SITES
TIHUHU LAND
JEGASE LAND
SEHO LAND
LAND OF NOBIHO (BINDUTA) MEN
LAND OF BE'SHAMBE (UNILAJ) MEN
LAND OF JEGASE MEN IN VILLAGES OTHER THAN SIVEPE
S AREA CULTIVATED BY MEMBERS OF SAMPLE
C COFFEE GARDEN
R RUBBER STAND
SIVEPE EXISTING VILLAGE
AWALA ABANDONED VILLAGE
BOUNDARY BETWEEN LINEAGES
BOUNDARY BETWEEN HOUSEHOLDS WITHIN LINEAGES
0 100 200
YARDS

Source: Rimoldi 1966: 82

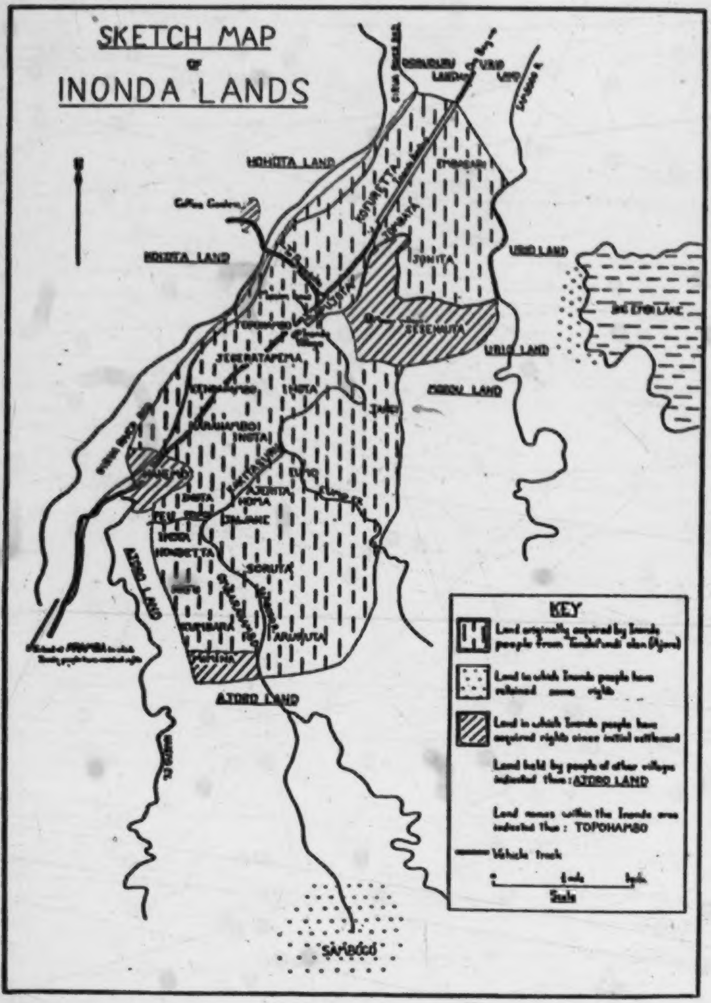
[End Map 3]

423
361 ●
102
621
363
311

22: Schwimmer E-4,5 (1966-1967) 1969 OJ23 Orokaiva OJ23
Mount Lamington

MAP IV

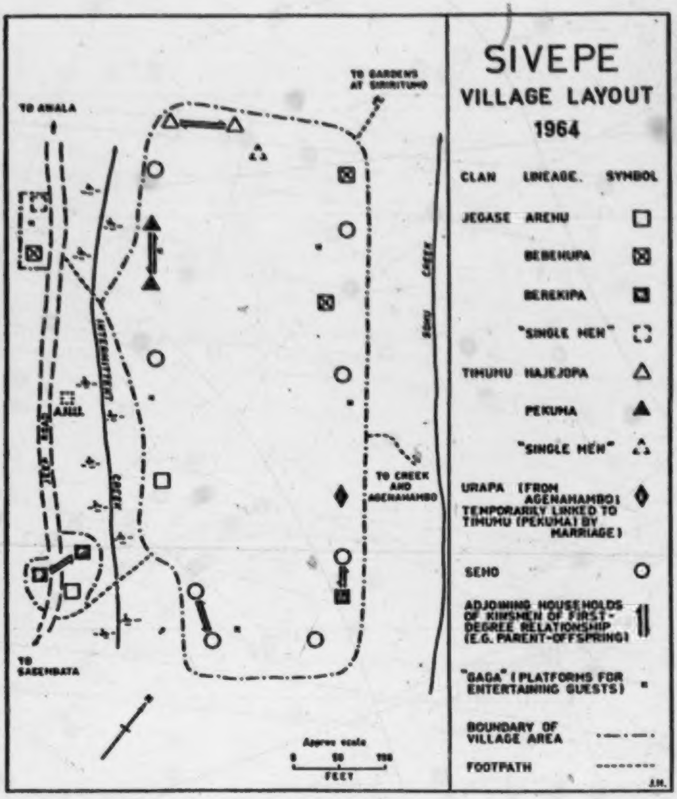
102
423
491
133
361


SKETCH MAP
of
INONDA LANDS
HOHOTA LAND
Coffee Gardens
HOHOTA LAND
UMBO LAND
UMBO LAND
ATORO LAND
ATORO LAND
JONITA
SESEHUTA
JEGERATAPEMA
AJERITA
HOMA
SORUTA
ARUHUTA
SAMBOGO
KEY
Land originally acquired by Inonda people from [illegible] clan (Ajeva)
Land in which Inonda people have retained some rights
Land in which Inonda people have acquired rights since initial settlement
Land held by people of other villages indicated thus: ATORO LAND
Land names within the Inonda area indicated thus: TOPOHAMBO
Vehicle track
Scale

Source: Crocombe & Hogbin 1963 : 105

[End Map 4]

Map V


SIVEPE
VILLAGE LAYOUT
1964
CLAN LINEAGE SYMBOL
JEGASE AREHU
BEBEHUPA
BEREKIPA
"SINGLE MEN"
TIMUHU HAJEJOPA
PEKUMA
"SINGLE MEN"
URAPA (FROM AGENAHAMBO) TEMPORARILY LINKED TO TIMUHU (PEKUMA) BY MARRIAGE)
SEHO
ADJOINING HOUSEHOLDS OF KINSMEN OF FIRST-DEGREE RELATIONSHIP (E.G. PARENT-OFFSPRING)
"GAGA" (PLATFORMS FOR ENTERTAINING GUESTS)
BOUNDARY OF VILLAGE AREA
FOOTPATH
J.H.
TO AWALA
TO GARDENS AT SIRIRITUMO
INTERMITTENT CREEK
CREEK
TO CREEK AND AGENAHAMBO
TO SAGEMBATA
Approx scale
0 50 100
FEET

361
621
487
102
193
491

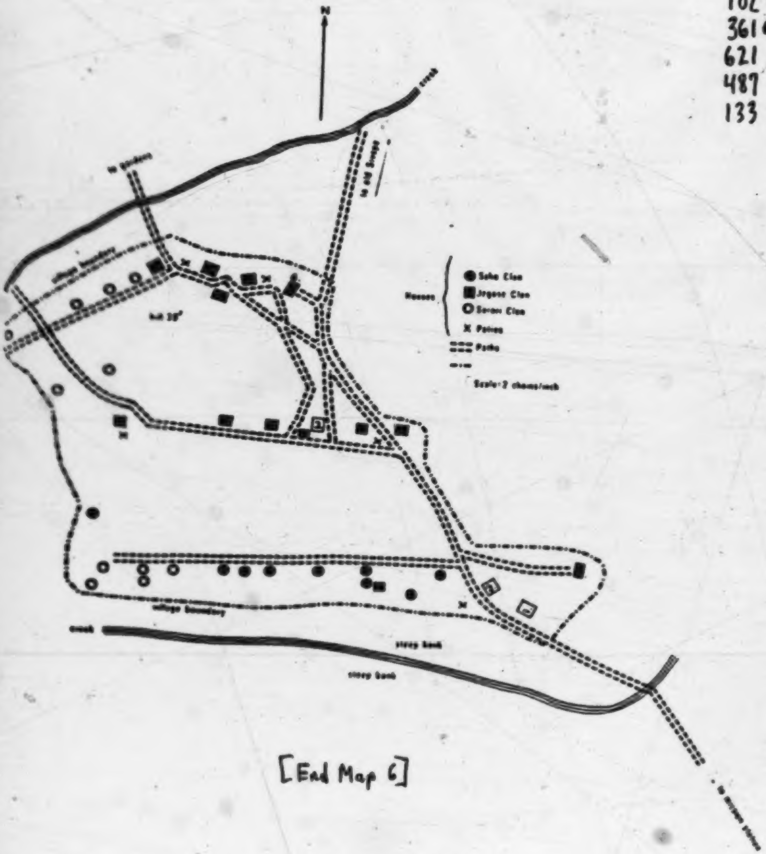
Source: Waddell & Krinks 1968: 38

[End Map 5]

22: Schwimmer E-4,5 (1966-1967) 1969 OJ23 Orokaiva OJ23
Mount Lamington

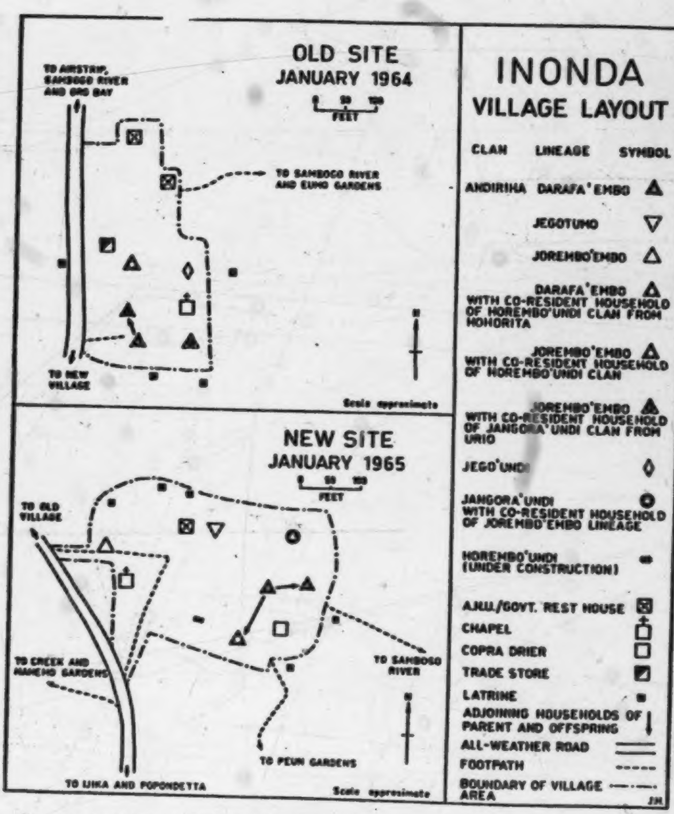
Map VI
Plan of New Sivepe

102
361●
621
487
133


N
creek
to gardens
to old Sivepe
village boundary
hill 35°
Houses
● Soho Clan
■ Jegase Clan
○ Seram Clan
✕ Patios
Paths
Scale: 2 chains/inch
village boundary
creek
steep bank
steep bank

[End Map 6]

Maps VII and VIII


OLD SITE
JANUARY 1964
0 50 100
FEET
TO AIRSTRIP, SAMBOGO RIVER AND ORO BAY
TO SAMBOGO RIVER AND EUMO GARDENS
TO NEW VILLAGE
Scale approximate
NEW SITE
JANUARY 1965
0 50 100
FEET
TO OLD VILLAGE
TO CREEK AND MAHEMO GARDENS
TO SAMBOGO RIVER
TO PEUM GARDENS
TO IJIKA AND POPONDETTA
Scale approximate
INONDA
VILLAGE LAYOUT
CLAN LINEAGE SYMBOL
ANDIRIHA DARAFA'EMBO
JEGOTUMO
JOREMBO'EMBO
DARAFA'EMBO WITH CO-RESIDENT HOUSEHOLD OF HOREMBO'UNDI CLAN FROM HOHORITA
JOREMBO'EMBO WITH CO-RESIDENT HOUSEHOLD OF HOREMBO'UNDI CLAN
JOREMBO'EMBO WITH CO-RESIDENT HOUSEHOLD OF JANGORA'UNDI CLAN FROM URIO
JEGO'UNDI
JANGORA'UNDI WITH CO-RESIDENT HOUSEHOLD OF JOREMBO'EMBO LINEAGE
HOREMBO'UNDI (UNDER CONSTRUCTION)
A.N.U./GOVT. REST HOUSE
CHAPEL
COPRA DRIER
TRADE STORE
LATRINE
ADJOINING HOUSEHOLDS OF PARENT AND OFFSPRING
ALL-WEATHER ROAD
FOOTPATH
BOUNDARY OF VILLAGE AREA
JH

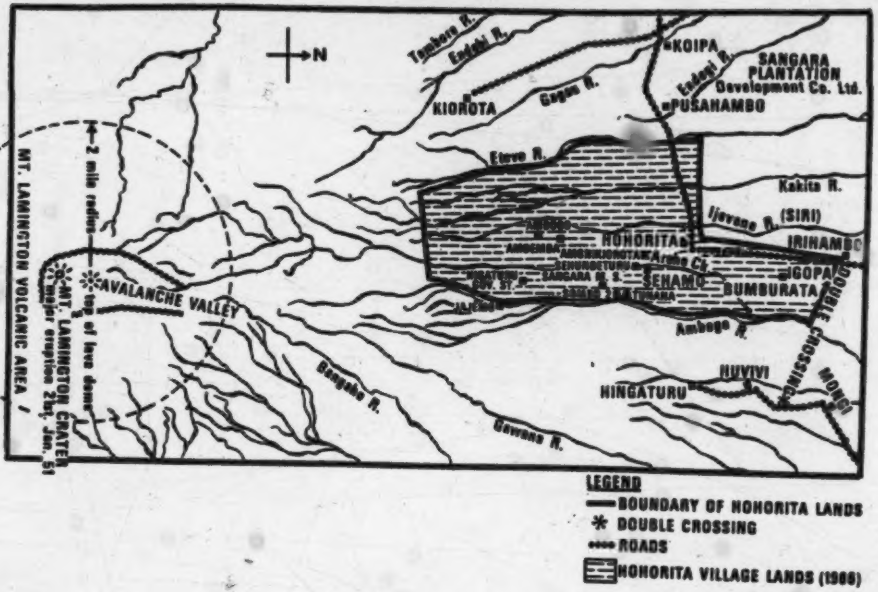
102
361
621
491
487
364

Source: Waddell & Krinks 1968: 54

[End Map 7]

22: Schwimmer E-4,5 (1966-1967) 1969 OJ23 Orokaiva OJ23
Mount Lamington

Map XIII

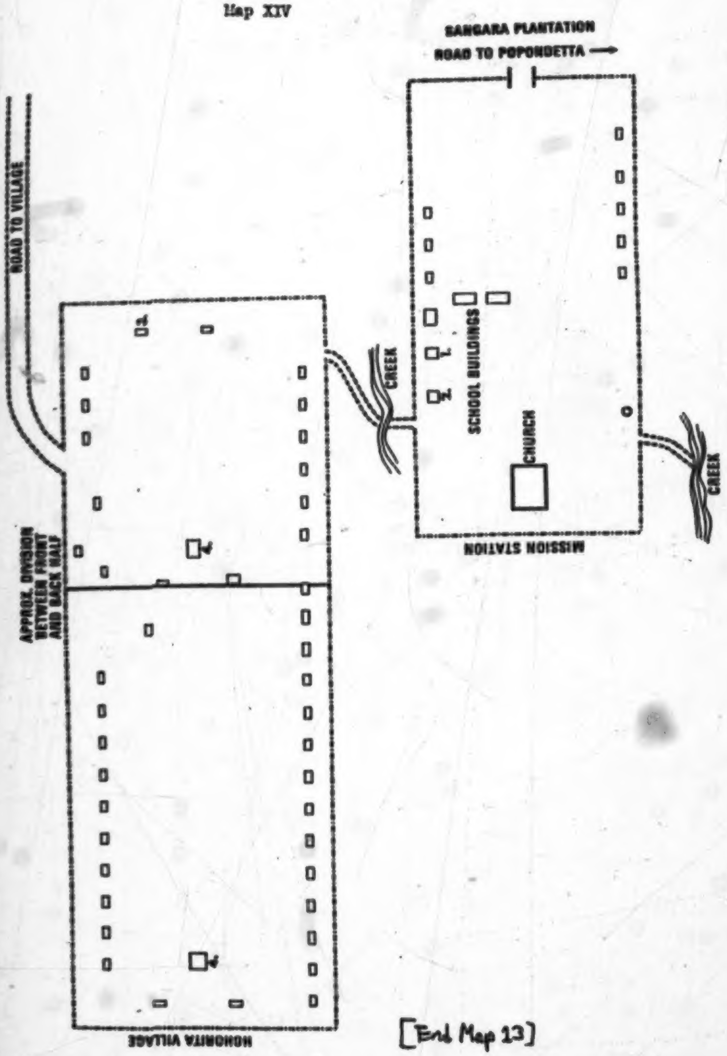

N
Tambere R.
Endehi R.
KOIPA
SANGARA PLANTATION Development Co. Ltd.
Endegi R.
KIOROTA
Gagau R.
PUSAHAMBO
Etevo R.
Kakita R.
Ijevano R.
(SIRI)
IRIHAMBO
HOHORITA
Ambogo R.
IGOPA
SEHAMO
BUMBURATA
DOUBLE CROSSING
MONGI
HUVIVI
HINGATURU
Banpaho R.
Gavrano R.
AVALANCHE VALLEY
top of lava dome
2 mile radius
MT. LAMINGTON CRATER major eruption 21st. Jan. 51
MT. LAMINGTON VOLCANIC AREA
LEGEND
BOUNDARY OF HOHORITA LANDS
* DOUBLE CROSSING
ROADS
HOHORITA VILLAGE LANDS (1969)

[End Map 12]

102
361
131
133
491

Map XIV

997
102
361 ●
133
491


SANGARA PLANTATION
ROAD TO POPONDETTA →
ROAD TO VILLAGE
APPROX. DIVISION BETWEEN FRONT AND BACK HALF
CREEK
SCHOOL BUILDINGS
1.
2.
3.
4.
CHURCH
CREEK
MISSION STATION
HOHORITA VILLAGE

[End Map 13]

101 These so-called "mountain Orokaiva" have been described
in considerable ethnographic detail by Williams.[2] Pioneer
administrators considered them to be the most ferocious of
New Guinea peoples. No tradition exists showing familiarity
133 with vulcanism in the area, apart from one or two dubious
hints in myth incident. The nearest volcanic outbreak occurred
nearly a decade ago in the Tufi district, a considerable
distance to the southeast. Mt. Lamington (5,634 ft.) with
its irregular humps of old ash cones and its dense vegetation
cover has always been regarded as being extinct. The Orokaiva
241 worked their hamlets and gardens high up on the rich
soil of its sprawling flanks, achieving perhaps the densest
361 settlement patterns of any of the shifting "dry" cultivators
in the New Guinea area.[3] They lacked any background
731 conditioning to cushion the shock as did the whites who
developed a Mission station, a Government coffee plantation,
other "native" cooperative enterprises in the Sangara area,
and, during the war, a mountain rest center which became
the district headquarters at Higaturu.

133 The first eruption came on a Sunday morning after three
anxious days of earth tremors during which official and
731 Mission personnel hesitated to frighten the people by suggesting
evacuation. The eruption had the classic Mont Pele
pattern: an exploding gas cloud engulfed an area of about
eight miles in every direction and then sucked back. Hot
ash covered a very much larger area, and the rivers whose
sources are around the peak—the Kumusi, Amboga, and
others well known for bitter fighting during the war—became
choked with ash flows. The Higatura and Sangara centers
on the north side caught the full blast and were virtually
flattened, as it was this side of the mountain which blew
out. Almost 100 percent casualties occurred in the area engulfed
by the gas cloud. Since the bodies were often in good

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[113] [2] Williams, F. E., *Orokaiva Magic* (1928); *Orokaiva Society* (1930). The Orokaiva and their culture are also referred to extensively in Annual Reports of the Territory from 1890 on, particularly by Chinnery and Beaver in the 1914-15 and 1918-19 reports.

[3] Williams speaks of the Lamington slopes as "thickly populated and with innumerable garden-clearings . . . one of the most fertile and beautiful in all Papua" (*Orokaiva Magic*, p. 110).

[p.16-8]

133 eruptions has subsequently continued, and reports as of December, 1951, show a persistence of these conditions and a 731 recurrence of bad earth tremors. In other words the Orokaiva, Government and Mission are having to learn to live with the volcano for an indefinite period.

731 241 An observer passing through or flying over destroyed areas was struck by the fact that plants with large fleshy foliage such as taro (the staple food of the Orokaiva) and bananas tended to green over quickly. Root crops indeed sometimes showed accelerated growth, presumably through combined ash-rain fertilization, though considerable rotting set in later. Squads of men were organized to go into the more accessible areas within the blast perimeter to gather such surviving crops, though they were not permitted to stay overnight. These foodstuffs supplemented the official rations which consisted of rice, canned meat, some wheatmeal, peas, salt, sugar, and tea in generous quantity.

731 Within two months the whole situation was becoming reasonably "structured." The Government vulcanologist had defined a danger zone from eight to 12 miles around the active crater; no individual could go inside this area except with an official pass, and then only by day and for good reason. Those groups whose living sites were outside this closed area, or who could get land from relatives or others, were being allowed to resettle under conditions closely prescribed by supervising Government officers (this will be enlarged upon later in this paper). On this basis, some 2,500 persons had already left the refugee camps, though they were still being rationed to some degree. The "Sangara" people had been transported back inland from the Eroro camp to the Popendetta camp and adjacent zones within a few miles of their homes. The "Isivita" people at Oro Bay, numbering some 600, were being transported in batches of some 35 persons every other day by launch from the Oro Bay camp to Killerton, by truck to the Popendetta camp, then by small Dragon Moth plane to the Kokoda airstrip. From here they walked the approximately 20 miles to the Ilimo camp on the western side of the mountain where they had lived formerly. The Oro Bay camp was in this way closed down by May. At Ilimo, some 2,000 persons were living either in the first temporary huts such as the Orokaiva build for emergency or short-term housing, or in large newly-constructed houses of a more permanent type. (Somewhat later this camp population was reduced to about 1,500, comprised essentially of the surviving people from the west side of the mountain whose homes were in the closed-off area and who had not been able to find resettlement places outside). The Ilimo camp had a staff of some 14 white officials, aided by Papuan police and other assistants. In addition to the various welfare activities, there were schools for children and adults, sports, a community hall, and a large block of garden land broken in with tractors and other modern tools. Government was using it as an experiment in "community development" as well as a relief center.

731 657 177 [361] By that time, too, a whole series of policy problems had arisen which both the field staffs and the Australian authorities at Canberra and Port Moresby were trying to resolve. Most serious was the question of how far the crucial break with the past should be used as an opportunity to encourage

731 or even force Orokaiva settlement patterns from the traditional
657 scattered hamlet system to village or even town living.
Another tough question was how far Government should step
177 in to supervise matters of economic and social welfare, including
[361] elementary schooling which hitherto policy had left almost
wholly to the Anglican Mission. The majority of the
[797] mountain Orokaiva are now adherents of this Mission, the only body operating in the area. Questions relating to land tenure, social group realignment, leadership, law and order, and other matters involving local custom had also to be faced, especially in the course of the first experiments in resettlement.[4]

731 Officials and Mission workers reported that the explanations
of the "cause" of the disaster given to them by Orokaiva,
784 were, in general, of a supernatural nature: "God"
was punishing them for "sins" such as "not supporting Mission and Government plans for development," "not building new churches as requested by the Bishop," or "not helping the Allies enough during the war." However much these may
731 have pleased the hearers, the fact seems to be that there were
152 resulting strong feelings of insecurity and even of guilt in their retrospective look at the pre-eruption way of life.[5] Officials who know the Orokaiva considered that these feelings undoubtedly helped to foster the extraordinary degree of cooperation and orderliness in situations where large numbers of people were necessarily herded together and shifted around without benefit of the traditional niceties and proprieties.

121 This raises the whole problem of interpreting the overt
events here summarized in terms of their cultural and individual
731 contexts. In discussing theory relating to the dynamics
of change and resistance to change, the writer, along with
178 others, has referred elsewhere to the general tendency for
peoples to be pre-conditioned by the characteristic sets of their
182 culture and personality norms, to be differentially "adaptable" or responsive to change in the face of new experiences.[6] The impression gained in this case is that subject to inevitable factors of shock and disorganization, the Orokaiva were culturally predisposed to respond to the traumatic experience here described with something approaching maximum adaptability.

262 The mountain Orokaiva are shifting cultivators, and supplement their staple food, taro, with sweet potato, yam, banana and sugar cane. Flesh from domestic pigs, chickens, dogs, and wild game is what Williams calls "a dainty rather
241 than a diet." "Fresh ground," says this ethnographer, "is continually cleared for new plantings" in the typical pattern

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[113] [4] These matters are discussed particularly by C. S. Belshaw, an anthropologist working in Papua under the auspices of the Australian National University Research School of Pacific Studies, as a result of a visit to the area in April, 1951; see his "Social Consequences of the Mount Lamington Eruption," *Oceania*, 21, 4, pp. 241-252 (1951). This article was not seen until after the first draft of this paper was completed, and as the approach is considerably different the two papers are complementary rather than unduly overlapping.

[5] Belshaw, *op. cit.*, p. 242, stresses this "guilt" factor.

[113] [6] F. J. Keesing, "Some Notes on Acculturation Study," Sixth Pacific Science Congress, *Proceedings*, IV, pp. 59-63 (Berkeley, 1940); "Cultural Dynamics and Administration," Seventh Pacific Science Congress, *Proceedings*, 14 pp., mimeographed (New Zealand, 1949).

241 of "dry" gardening, with fire and the digging stick as the
essential tools, and either long term rotation of previously
occupied areas or breaking in of new forest land. "The im-
mediate family . . . is a self sufficient unit" and "the Orokaiva
words for 'work' and 'garden' are one and the same." Con-
621 sistent with this mobile economic base, settlements are rarely
more than hamlet size, with "hardly more than a dozen
houses" on the average. Materials for housing are readily
available, so that residence can be easily shifted.

The hamlet is based normally on patrilocal-patrilineal prin-
ciples of organization, with a known strong tendency for
new groups to form by "hiving off." Clan affiliations are
[614] reckoned from quite recent ancestors, so that at times a
given clan may all be in one settlement, though more usually
scattered through several closely related settlements. The
592 generally monogamous family units are under the "immediate
621 authority of the father," while the affairs of the local living
units are under loose supervision by the hamlet and clan
622 elders, centered on a "men's house" and working together,
usually with one strong senior man as "leader." Personal
422 property consists of mobile goods such as tools and utensils,
clothing, and body ornaments.

181 In spite of ethnic similarities over a wide region, Williams
speaks of the Orokaiva as being a "more than usually quarrel-
some and disunited people"—a strong statement to make in
the New Guinea setting. Their pre-pacification history was
marked by "feuds, dispersals . . . a veritable whirlpool of
strife, migration, and counter-migration." Beaver, too, refers
to their "turbulent and restless life . . . migration was, in
[754] the main, a matter of attacking, fleeing, and pursuing." Super-
natural weapons in the form of sorcery were especially feared.
Even for Papuans, the Orokaiva proved to be unusually
[562] hostile and resistant to whites. Women were often seen ac-
companying the war parties, carrying food and weapons, and
(726) sometimes joining in fights. Williams goes on to say that
while the "elementary small sympathy-groups" (the local
[628] kin and settlement units, and to a lesser extent the dispersed
clan units) were tightly knit, their external relations were
(728) precarious. "There were peacemakings or truces, but the
truce was always a fragile one, and no (settlement) lived
in permanent security." "Hiving off" occurred sometimes
361 as the result of a "quarrel and the fear of retaliatory magic,"
241 but more often it was "simply the lax method of horticulture
which necessitates the clearing of many areas in succession
[578] and sometimes a temporary settlement on a distant site."
Another factor could have been food scarcities which tend
361 to occur in exceptionally dry southeast winter seasons. During
261 this period, north and west Lamington area is in a rainshadow
zone, and people may have to scatter out to live on wild
731 roots and fruits. The implication of this is that even the
excision of the 4,000 persons from the Orokaiva group who
165 were killed involved no extensive shattering of valued ties.

361 Williams and others judge that with the modern pacifica-
tion, the Orokaiva have tended to disperse in even smaller
178 living units than before. This appears to apply particularly
[949] to the relatively densely populated Lamington slopes, though
a few instances of larger aggregations approaching a village
type also occurred, particularly as a result of Mission influ-
361 ence. Over against this greater dispersal, the people have
571

[p 18-B]

361 mingled more freely as a result of travel on the government
571 roads and trails (which they have to keep in order), trading,
Mission and official gatherings, and other new opportunities
224 for interpersonal relations. One special feature of Orokaiva
life in modern times is the annual burning-off of grasslands
by hunting parties in order to get wild game. This has
[628] probably involved the assembly of larger groups and is one
of the few activities which could induce intersettlement cooperation.
311 The writer sensed the parallel of the crude local
fires set for garden clearing and the general burning-off
of grasslands to the major burning and blackening in the
wake of the volcano—doubtless a mighty job of clearing to
the Orokaiva eye.

157 Within the limits that brief characterizations of personality
norms can be valid, observers seem to agree that the Orokaiva
as individuals have traits congruent with the social
structure that favor individuality and mobility. Even the
casual visitor gets a sense of independence, alertness, self-reliance,
"strong talking," dignity, restraint, imperturbability
at meeting the unexpected event, and high-tension interpersonal
behavior in general. This is in particularly striking
contrast to such an elaborately structured society as that
of Samoa, where the writer had been working shortly before.
In informal groups seen around the camps and waiting at
airfields for transport, women and children, far from being
in the background, kept up a busy verbal exchange with the
men. The Administration has considered the Orokaiva territory
[657] as perhaps the best recruiting ground for its Royal
Papuan Constabulary on the basis of these personality characteristics,
[625] including ability to meet crisis conditions such
as patrols may encounter.

771 The Orokaiva religious history is also particularly interesting
here. Their traditional faith, Williams says, though
in many respects vague and locally variable, concerned itself
"primarily with the spirits of the dead" and their influence
on the welfare of the living. Death was appraised with
[761] particular realism, although it was considered ultimately as
the result of supernatural causes. Magic had a consistent
[789] place. Orokaiva country, however, has been swept in modern
794 times by a series of new cults indicative of religious adaptability
in the face of fresh experience. First to come into
prominence was the *Baigona,* or "snake cult" of 1911-12,
succeeded from 1914 on by the so-called "Taro cult" which
in turn had undergone a series of local reformulations by
the time Williams reported on it in 1924.[7] Central features
of the Taro cult were association of successful taro cultivation
with the ancestral spirits, approached by way of a
"shaking-fit" technique of revelation, together with somewhat
new types of public ritual and symbols, including fragmentary
elements from Christianity. Later Belshaw and
others reported that "Christian Co-operative Evangelist"
societies, which were developed by the Anglican Mission
among some Orokaiva converts for the cooperative growing
of rice and other crops, tended to assume a somewhat parallel
494 and absorbing mystical agriculture context. Rumors spread
668 of "an order from the King (of England) that co-operatives

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771 [7] *Orokaiva Magic,* Part I; see also Chinnery, E. W. P. and Haddon,
[113] A. C., "Five New Religious Cults in British New Guinea,"
Hibbert Journal, 15, 3 pp. 448-463 (1917). Materials are also found
in the official reports of the time.

474 668 771 should be formed . . . (and that) as a result of their activities the white people would leave Papua and the villagers would be in charge of their own affairs." This type of cooperative movement was stimulated after the war, and included putting crosses in the gardens, offering prayers before gardening activity, building special houses in which cooperators could meet and eat, and collecting money for vague purposes. Even in the face of Mission reluctance and some Orokaiva opposition, Government finally stepped in to try to give it better direction; a Cooperative officer was trying to bring the situation under control when the volcano exploded.[8]

648 As final pieces in this background mosaic, the effects of World War II may be noted. When the Japanese moved in they formed labor gangs with the small number of captured whites, including Mission workers, later removing them when Allied attack was imminent. As battles ranged through the area, Orokaiva were drawn in as helpers, willingly or otherwise, on both sides of the lines. After the Japanese surrender, American forces built up large military establishments including airfields in the Buna-Oro Bay zone. Great numbers of Orokaiva were gathered together in work camps which were not unlike the present refugee camps as regards living conditions, food, and social structuring. [727] In the wake of the war, War Damage Compensation representing considerable money wealth by Orokaiva standards came into the area. [729] Some of the younger men who were "veterans" were given technical training at Higatura and elsewhere.

361 These Orokaiva were generally resistant to a war-stimulated movement to consolidate into larger settlements although it has had considerable vogue along the coast and in the Kokoda region. Typically, the new villages have been built in an open area, with houses drawn up like a military encampment on three sides of a square or rectangle. [526] The inner square is used for soccer football, which is tremendously popular, and for other community purposes. 731 361 Subsequent to the eruption, the Orokaiva who resettled along the jeep-roads outside the danger zone were encouraged by Government officers to build this type of village, and the houses were laid out under the official eye. First, the men left the relief camps to erect buildings, and were followed later by the women and children. These new settlements contain anywhere from 100 to 400 persons, with the kin and hamlet alignments usually kept through contiguous housing. Such units are within sight of one another, and from the air resemble a chain of fairly continuous settlements. Some family and hamlet groups, however, have inconspicuously avoided settling in these new villages although this has been difficult because Government has tried to keep a very tight supervision in case its judgment as to the danger perimeter has been wrong. A government post was established in each of the two main resettlement zones to facilitate this supervision.

[657] Belshaw has observed this resettlement in a somewhat more advanced stage than was seen by the writer. He comments that in general the prime concern of the people was

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[8] Belshaw, *op. cit.*, pp. 249-252, gives a fuller account of this cooperative movement and its significance. Publications of the Anglican Mission also contain references, seen by the writer some years ago, but not available at the time of writing this paper.

731 361 [657]

to get out from under the direct control of Government and that everything was "subordinated to this end." Those who had title to land outside the closed area and wished to get to it, readily agreed to official plans for resettlement, including the village building program. Those whose land was inaccessible—too far off the road or in the danger area—attempted to obtain permission to occupy land of kinsmen or others who might be willing. The most immediate objective was to break in gardens and to reduce or eliminate the need for rations, emergency wild foods, or daily treks into the closed area for salvage produce. Here difficult problems are foreshadowed. This pattern of settlement will be possible only on a short term basis. For longer occupation the people will either have to scatter out in widening areas to make their further seasonal shifting gardens, or else make the radical change to sedentary gardening which has no appeal to most of them.

731 36 311 [161]

The situation is made more serious by the fact that the safe land tracts are, in general, less fertile than the devastated higher slopes; these and comparable areas elsewhere do not carry such relatively dense settlement.[9] Mr. H. T. Plant, an officer with anthropological training, made a quick survey of land tenure and social structure in the resettlement zone on the Wairopi side. On this basis he estimated that with only about five acres at hand per person, or approximately 100 people to the square mile, the available land is inadequate by New Guinea standards to support the population. In April, Belshaw found that great uncertainty surrounded land use problems. There were frequent moves, uncertain titles, disputes over tenure, and conflicting authority among the hamlet and clan leaders. He predicted that it might take months to sort out the economic and social threads involved. It will take far longer to build up seed stock, domestic animal herds, and other bases for normal living, as well as the large quantities of food required for the proper ceremonies for the dead which will eventually be held. In due course other settlement areas than those immediately occupied will need to be found for people still in the camps.

731 152 [578]

Government and Mission personnel were ready to offer judgements on Orokaiva behavior in the crisis situation, and camp records had some objective data to the extent that people broke the law, entered hospital with wounds, or otherwise came under official purview. In addition to the "sense of guilt" already mentioned, there was said to be considerable "anxiety," "irritability," "excitability," and "quarreling." The legal record shows several sharp clashes where injuries were inflicted, wife-beatings, and other kinds of quick tempered violence. Under extreme provocation, it was said that they might "throw hysterical fits." An obvious source of early tension came from not knowing the fate of missing clansmen. Officials denied knowledge of any significant mental derangements beyond the scattering of instances known previously.

The Oro Bay camp inhabitants appeared to be under by far the most stress and strain. Here, out of sight of the

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[9] Williams, after referring to the rich Lamington slopes, says: "A somewhat discouraging contrast is found in the forests of the plain proper, which are sometimes gloomy and waterlogged . . . and of wholly inferior quality" (*Orokaiva Society*, p. 12).

731 152 [823] mountain, wholly on official rations, and with nothing to do, the people were a prey to all kinds of rumors as to what was going on elsewhere. Furthermore, these mountain people apparently could not conquer a fear of the sea, and this was reinforced by a rumor that a supernatural "tidal wave" was to occur along the coast. The camp director told how every night the more timid scattered on to the higher ground rather than sleep in the camp on the foreshore. Prior to the liquidation of this camp the authorities sent one of the leading men back to the big Ilimo camp and the home area so that he could return with a factual account of conditions and allay the other inmates' fears as far as possible. A strong current of tension running through this whole situation was: "What does Government intend to do?" All these behavioral conditions appear psychologically congruent with the long term personality norms.

731 361 177 The new group alignments of the camps and resettlement areas presented interesting tests as to how far larger aggregations could be structured effectively enough to show promise of permanence. This matter is particularly crucial to policy, and constitutes the major challenge from the viewpoint of "applied anthropology." Reference has been made in the foregoing to a controversy which arose as to whether this would be an appropriate occasion to resettle the survivors in centralized communities, or to allow them to scatter as before in a dispersed pattern of settlement consistent with safety. Some officials resented the idea that the catastrophe should be used to "put over" anything other than those rehabilitation operations that are in line with the habits and sentiments of the people. On the other side was an opposing official viewpoint, and a powerful Mission sentiment, that it would be in the long term interest to take the opportunity to concentrate the surviving Orokaiva into a small number of population centers, with proper welfare and other services. The first village building program represented something of the latter viewpoint, though some even visualized bringing the people into a handful of large townlike communities, much like the Ilimo camp-settlement, with cooperative agriculture and other modernization. The Orokaiva, so far as their views had been, or could be obtained, appeared to have no crystallized opinion. Because of the factors playing upon them, they were for the time being particularly susceptible to the suggestions of those official and Mission workers who brought the enthusiasm of reformers to the cause of concentration.

731 The writer was asked to give an opinion on this matter. The following points seemed clear, even from a quick view:

657 361 177 1. The loosely organized Orokaiva society has no significant pre-existing socio-political institutions and loyalties beyond the immediate kinship and hamlet alignments. A camp concentration, therefore, remained a congeries of traditional groups, each dealing with Government authority through its senior leader. Officials said that a few particularly strong men of super-local reputation were tending to take leadership in speaking when the "headmen" were brought together for informal camp "councils." But essentially, for purposes of issuing ration and other activities, each small group had to be dealt with as a unit, and otherwise kept its integrity. Here and in the newly formed villages, Government de-

731 657 361 177 liberately endeavored to keep everyone busy, and the men spent much of the time in work gangs (e.g. Monday, Tuesday and Wednesday were usually devoted to house-building; Tuesday, Wednesday and Thursday to gardens; Friday to roads and hygiene). But leadership and organization were creatures of Government, and to some extent of Mission. There were no significant signs of a self-motivated superstructure taking form other than the strengthening of scattered clan ties. Consequently, should larger communities be established with the purpose of preventing the people from scattering out again, they would have to be bureaucratically or theocratically controlled with all the dubious consequences such a situation can entail.

731 657 578 [625] 2. Reasonable law and order was being maintained in the new settlements, under the eye of a considerable force of the Papuan Constabulary sent in for the emergency. Opponents of a concentration policy claimed, however, that the older patterns of intergroup hostility and violence are not far enough below the surface to justify the risks involved in larger long-term aggregation. As indicated, problems of land tenure are a major potential source of conflict. Another is "woman trouble," judging from experience in the camps where husbands and wives find themselves in informal association with members of the opposite sex, in contrast to the normal tightly structured small units.

731 754 514 3. Not least among the uncertain factors is that of sorcery. According to those who manage the settlements, fear of coming under the influence of strangers who practice sorcery shows itself as a vague but persistent factor. Most overtly it has emerged in connection with the disposal of waste products in the large camps. In typical Papuan fashion the Orokaiva is extremely secretive in his disposal of faeces and other leavings of his body because of the possibility of their use against him in harmful magic. A crucial question, therefore, has been whether group toilets could provide enough anonymity to forestall opportunities for the practice of sorcery. The problem was dealt with where possible by putting men's and women's latrines over running water. This social-supernatural sanitation problem could be serious where long term settlement of large groups is being planned.

731 361 241 [242] 4. On the economic side, no sound basis seems in sight for establishing large permanent communities in the comprehensive manner proposed. As indicated, the familiar pattern of shifting gardens will normally involve seasonal movement outward from the immediate environs of the new settlements where most present cultivations are now being made. As yet, no widespread disposition exists to adopt more intensive sedentary cultivation, although undoubtedly some will be prepared to try to continue cooperative experiments with rice and other crops and, hence, will be amenable to Government and Mission encouragement and aid here. 731 657 [241] [177] As in socio-political affairs, the responsible organization and leadership would in general have to be provided from outside, with the dependence relationship that this implies. Government might have to continue helping any large community for an indefinite period, as with the mechanized agricultural production it is introducing at the Ilimo camp. 731 231 In large settlements the technique of handling domestic pigs and chickens, vital sources of protein, is always a difficult

731 [231] problem—and one which the Orokaiva will not be equipped to solve when stocks of these animals are eventually restored. It seems fair to prophesy that as the people become habituated to living in the shadow of the volcano, many of them will quietly "hive off" from the present concentrations and go their familiar economic way. Alternatively, official opposition to this trend could produce growing tensions, including anti-Government hostility.

5. Other factors can be noted congruent with the above [257] [797] points. Some individuals are said to fear that in larger communities they will face more extensive demands for village maintenance and other Government and Mission needs than under the old patterns of settlement. Belshaw points to a [797] complication of the labor situation in the resettlement areas due to a request by the Mission that its adherents devote some time to building new Mission stations in the area. [178] As indices of the increasing normality of life, there is some revival of dancing and music, as well as keen sports interest.

731 361 On the basis of such factors, the writer ventured to present to the Administrator and a group of his top officials a view opposed to a compulsive concentration policy. He suggested, instead, that three or four main "centers of attraction" be developed outside the danger zone and on the main road, corresponding to the principal ethnic concentrations (Sangara, Isivita, Wasida). Here would be located subdistrict offices, Government boarding schools, medical aid posts, community center houses, experimental garden plots, and other facilities. Housing space could be made available to those desiring to settle around such a center voluntarily and try out more concentrated and sedentary living. The Mission could also use such centers for their stations if it wished. The writer also recommended cutting a series of crossroads more or less at right angles to the main road, and locating each "center of attraction" at a main crossroad point. These secondary roads would serve to draw settlement away from the overcrowded chain of villages that have developed along the one main road. This plan would enable those people who do not wish to be concentrated to scatter out in a wider pattern of dispersal for garden development; it would offer quick routes of escape on foot or in vehicles in case of the threat of further eruptions, ready access for government welfare services, and for transporting commercial crops to market. The writer has subsequently been informed that these proposals in general correspond with the policy which was officially adopted—crossroads have been cut and government centers and facilities have been built up at three key points.

731 797 The second problem referred to earlier, namely the delicate one of Government versus Mission responsibilities, will be discussed only briefly. The Mission teachers claim that the great majority of the mountain Orokaiva are adherents: those remaining outside the church do so by conscious choice. In the wake of the eruption the Anglican authorities sent in a very active, young Bishop who was familiar with the people, to take charge in place of the resident white staff killed at Sangara. Mission medical workers took over some of the important health responsibilities, including a [875] Mission hospital at Oro Bay. "Native" Papuan Mission [872] teachers started elementary vernacular schooling in the camps.

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781 gara lived close to a large mission station which offered educational
facilities until it was wiped out by the disaster. Afterward,
the mission took a special interest in their welfare.

781 What distinguished the relocated villages from the others was
not greater contact with European-dominated institutions. On the
184 contrary, it would seem that contact with such institutions was
[177] probably most frequent among the male residents of Inonda, who
were much engaged in wage labor; such contact was least frequent
in Sivepe, with Hohorita holding an intermediate position.
[434] Nor could it be said that economic prosperity, in the sense of
money income, was correlated with relocation. On the contrary,
the average income was higher in Inonda than in Sivepe or
Hohorita.

781 In summary, the major outcomes of the eruption and relocation
have been the following: first, the administrative center Higaturu,
657 situated on the mountain, was destroyed and replaced by Popondetta,
which lies on the alluvial plain to the north, thus shifting the
center of Australian influence away from the relocated villages.
This detracted from rather than contributed to development of the
relocation areas and placed the administrative center at some
distance from the areas of greatest population density. However,
the relocated villages were provided with subsidiary centers of
Australian influence such as the hospital in Saiho and the mission
781 stations at Sasembata, Isivita, Agenahambo, and Hohorita. In addition,
a number of large villages (with populations of 250 to 500)
361 came into being along the main road between Popondetta and
Kokoda at a distance of 6 miles or more from the crater; these villages
were made up of groups previously domiciled in small bush
villages.

[177] The government prefers these large villages because they make
it possible to introduce such Western social institutions as schooling,
water supplies, road construction, and health clinics more
conveniently. The eruption offered the government a good opportunity
to establish large villages. The population of the bush settlement
had abandoned the area, and by the time the population was
allowed to return, the villages were no longer habitable because of
781 eruption damage and subsequent neglect. In this sense the eruption
offered an opportunity for speeding up development programs.
178 One might also argue that social development among the
Sangara survivors was accelerated when the entire older genera-

phasis on the "logic of the concrete," is equally insistent on pre- 121
cision in matters of material culture, because in the analysis of
symbols it often happens that important distinctions are made
between species, varieties, subvarieties, methods of food prep-
aration, of the manufacture of objects, and the like.

Quite apart from this concern with meticulous classification, componential analysis,-and lexical-semantic relations, it seems to me profitable to turn to the semiotics of material objects, especially if the field of connotation and denotation crosscuts numerous levels of conceptualization. There are some objects in every culture which may almost be regarded as "total phenomena" in the Maussian sense: they are at once of economic value, expressive of social relations, ploys in a political strategy, and religious symbols. They also appear as the subjects of myths. As a general rule, they are utilized as objects of exchange, which explains why they are as multivalent as exchange itself.

At least part of their significance in anthropology lies in their capability to link the levels of myth and ritual. The best way of explaining what I mean by this suggestion is to give some instances of semiotic analyses of objects which may be called "total phenomena," and include in these analyses the levels of both myth and ritual. Their role as "logical operators" linking these levels will then become obvious. Though my argument draws on a wide range of structuralist literature, the most important sources are Lévi-Strauss' introduction to Mauss' *Sociologie et anthropologie* (Lévi-Strauss 1950) and the Finale of *L'Homme Nu* (1971).

The ethnographic data are from the Orokaiva, a tribe in the 101
northern district of Papua, where I did fieldwork for one year
in 1966–1967 and for another three months in 1970.[1] The Oro- 131
kaiva live on the fertile slopes of Mount Lamington. They are
swidden agriculturists, whose main crop is taro, while yam, sweet 241
potato, sago, sugar cane, coconut, and numerous other nuts, as
well as latterly German taro are subsidiary crops. Areca grows
in most of the district. The population of 25,000 is very dense 161
on the actual slopes of the volcano, sparser in the riverine areas. 361
The kinship system is patrilineal, with a strong bilateral empha-
sis. I have given a detailed description of the various forms of 602

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